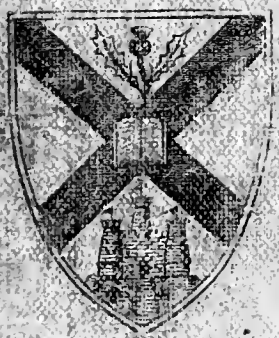
THE

EDINBURGH

University Calendar

1891-92



EDINBURGH

Printed and Published for the University

BY JAMES THIN, 55 SOUTH BRIDGE

MDCCCXCI

GRADUATION ROBES.

HIGHEST AWARDS.

THE ONLY GOLD MEDAL.
EDINBURGH INTERNATIONAL, 1890 AND 1886.

SILVER PRIZE MEDAL.
PARIS EXHIBITON, 1878.

HONOURABLE MENTION.
LONDON INTERNATIONAL, 1862.

GRADUATES

Are supplied with

ROBES & HOODS for all DEGREES.

Correct styles as arranged by

THE SENATUS.

JAMES MIDDLEMASS & CO.,

Robe Makers to the University,

CLOTHIERS & OUTFITTERS,

18 SOUTH BRIDGE, EDINBURGH.

Messrs MACMILLAN & CO.'S PUBLICATIONS.

Books for the Medical, the Pass, and Honour Certificate Examinations of the University of Edinburgh.

CLASSICAL LITERATURE.

Cicero—De Amicitia. Edited with Notes, Vocabulary, and Biographical Index, by E. S. Shuckburgh, M.A. 18mo. 1s. 6d.

Horace—Odes. Books I. and II. Edited by T. E. Page, M.A. With Notes and Vocabularies. 18mo. 1s. 6d. each.

Odes. Books I.—IV., and Carmen Seculare. By the same Editor. Fcap.

From the Senatus Academicus of the University of Edinburgh, who request the favour of a Copy of your Calendar or other Publications in Exchange.

[illegible] 2s. 6d.

Homer—The Iliad. Edited, with Introduction and English Notes, by Walter Leaf, Litt.D. Vol. II. Books XIII.-XXIV. 14s.

Iliad. Books I., IX., XI., XVI.-XXIV. *THE STORY OF ACHILLES.* By the late J. H. Pratt, M.A., and Walter Leaf, Litt.D. 5s.

The Iliad. Translated by Andrew Lang, M.A., Walter Leaf, Litt.D., and Ernest Myers, M.A. Crown 8vo. 12s. 6d.

Plato—Phædrus, Lysis, and Protagoras. A New and Literal Translation. By J. Wright, M.A. 18mo. 4s. 6d.

The Republic. Books I.-V. By T. H. Warren, M.A., President of Magdalen College, Oxford. 5s.

Thucydides—Book VIII. By Prof. T. G. Tucker. [*In the Press.*

Book VIII. By H. C. Goodhart, M.A. [*In the Press.*

Books VI. and VII. The Sicilian Expedition. Edited by the Rev. Percival Frost, M.A. With Map. Fcap. 8vo. 3s. 6d.

Xenophon — Cyropædia. Books VII. and VIII. By A. Goodwin, M.A. 2s. 6d.

Memorabilia Socratis. By A. R. Cluer, B.A. 5s.

MACMILLAN & CO., LONDON.

Messrs MACMILLAN & CO.'S PUBLICATIONS.

GREEK AND LATIN GRAMMAR AND COMPOSITION.

A Grammar of the Latin Language, from Plautus to Suetonius. By H. J. Roby, M.A. 2 parts. Part I. New Edition. 9s. Part II. 10s. 6d.

School Latin Grammar. By the same. 5s.

Hints towards Latin Prose Composition. By A. W. Potts, M.A., LL.D. 3s.

Passages for Translation into Latin Prose. By the same. 2s. Key. 2s. 6d.

Latin Prose Exercises based upon Cæsar's Gallic War. By C. Bryans, M.A. 2s. 6d. Key. 3s. 6d.

Sermo Latinus. Passages for Translation into Latin Prose. By Professor J. P. Postgate, M.A. 2s. 6d. Key. 3s. 6d.

Latin Prose after the Best Authors. By F. P. Simpson, B.A., Part 1. Cæsarian Prose. 2s. 6d. Key. 5s.

Greek Grammar and Syntax. By W. G. Rutherford, LL.D. 3s. 6d.

Greek Grammar. By Prof. Goodwin. Crown 8vo. 6s.
"The best Greek Grammar of its size in the English Language."—*Athenæum.*

Greek Grammar for Schools. By the same. Crown 8vo. 3s. 6d.

Syntax of the Moods and Tenses of the Greek Verb. By Prof. Goodwin. 6s. 6d.

Homeric Dictionary. By Dr G. Autenrieth. Translated by Dr Keep. 6s.

GREEK AND LATIN LITERATURE AND ANTIQUITIES.

A Companion to School Classics. By James Gow, Litt.D. With Illustrations. Second Edition. Crown 8vo. 6s.

The Attic Orators, from Antiphon to Isæos. By Prof. R. C. Jebb, Litt.D. 2 vols. 8vo. 25s.

Social Life in Greece, from Homer to Menander. By Prof. J. P. Mahaffy, D.D. 9s.

Rambles and Studies in Greece. By the same. Cr. 8vo. 10s. 6d.

Greek Life and Thought; from the Age of Alexander to the Roman Conquest. By the same. Crown 8vo. 12s. 6d.

A History of Classical Greek Literature. By the same. In Two Vols. Crown 8vo. Vol. I., in 2 Parts, The Poets, with an Appendix on Homer by Prof. Sayce. Vol. II. The Prose Writers. In 2 Parts. 4s. 6d. each.

Manual of Ancient Geography. Translated from the German of Dr Heinrich Kiepert. Crown 8vo. 5s.

A Primer of Roman Antiquities. By Prof. Wilkins, LL.D. 1s.

A Primer of Roman Literature. By Prof. A. S. Wilkins, LL.D., Litt.D. 18mo. 1s.

A Primer of Roman History. By Bishop Creighton. With Eleven Maps. 18mo. 1s.

A Primer of Greek Antiquities. By Prof. J. P. Mahaffy, D.D. 18mo. 1s.

A Primer of Greek Literature. By Prof. R. C. Jebb. 18mo. 1s.

A Primer of Greek History. By C. A. Fyffe, M.A. With Five Maps. 18mo. 1s.

MACMILLAN & CO., LONDON.

Messrs MACMILLAN & CO'S. PUBLICATIONS.

PHILOSOPHY.

Aristotle—The Metaphysics. Book I. Translated by a Cambridge Gradnate, 8vo. 5s.

Plato—The Republic of Plato. Translated into English, with an Analysis and Notes, by J. Ll. Davies, M.A., and D. J. Vaughan, M.A. 18mo. 4s. 6d.

Kant's Critical Philosophy for English Readers. By John P. Mahaffy, D.D., and John H. Bernard, B.D. A new and completed Edition in 2 vols. Crown 8vo.

Vol. I. The Kritik of Pure Reason Explained and Defended. 7s. 6d. *Vol. II.* Translation of the "Prolegomena." 6s.

The Methods of Ethics. By Professor Henry Sidgwick, M.A., LL.D. Third Edition. 8vo. 14s. A Supplement to the Second Edition, containing all the important Additions and Alterations in the Third Edition. Demy 8vo. 6s.

ENGLISH LANGUAGE AND LITERATURE.

Historical Outlines of English Accidence. By Rev. R. Morris, LL.D. Ex. fcap. 8vo. 6s.

Historical Outlines of English Syntax. By Rev. R. Morris, LL.D., and Dr Kellner. [*In October* 1891.

A History of Elizabethan Literature, 1560-1665. By George Saintsbury. Crown 8vo. 7s. 6d.

A History of Eighteenth Century Literature, 1660-1780 By Edmund Gosse, M.A. Crown 8vo. 7s. 6d.

Milton—Poetical Works. Edited, with Introductions, Notes, and Memoir, by Professor Masson. 3 vols. fcap. 8vo. 15s.

Paradise Lost. Books I. and II. Edited, with Introduction and Notes, by Prof. Michael Macmillan, B.A. Gl. 8vo. 2s. 6d., or separately 1s. 6d. each.

Shakespeare—Coriolanus. Edited, with Introduction and Notes, by K. Deighton. Globe 8vo. 2s. 6d.; sewed, 2s.

Wordsworth—The Complete Poetical Works. Copyright Edition. With an Introduction by John Morley, and Portrait. Crown 8vo. 7s. 6d.

ARITHMETIC AND MENSURATION.

Arithmetical Exercises and Examination Papers. By H. S. Hall, M.A., and S. R. Knight, B.A. 2s. 6d.

Rules and Examples in Arithmetic, with Answers. By the Rev. T. Dalton, M.A. 2s. 6d.

Arithmetic in Theory and Practice. By J. Brooksmith, M.A., 4s. 6d. Key, 10s. 6d.

Arithmetic for Schools. By Rev. J. B. Lock, M.A. 4s. 6d. Key. 10s. 8d.
Or Part I., 2s.; Part II., 3s.

Arithmetic for Schools. By Rev. Barnard Smith. Crown 8vo. 4s. 6d. Key. 8s. 6d.

Higher Arithmetic and Elementary Mensuration. By P. Goven. 5s.

Messrs MACMILLAN & CO.'S PUBLICATIONS.

ALGEBRA.

Elementary Algebra for Schools. By H. S. Hall, M.A., and S. R. Knight, B.A. Globe 8vo. 3s. 6d. With Answers. 4s. 6d. Key, 8s. 6d.

Algebraical Exercises and Examination Papers. To accompany the above. By the same Authors. Globe 8vo. 2s. 6d.

Higher Algebra. By the same Authors. Second Edition. Crown 8vo. 7s. 6d. Key. 10s. 6d.

Elementary Algebra. By Charles Smith, M.A. 4s. 6d. Key. 8s. 6d.

A Treatise on Algebra. By the same. 7s. 6d. Key. 10s. 6d.

Algebra. For the Use of Colleges and Schools. By I. Todhunter, F.R.S. 7s. 6d. Key. 10s. 6d.

EUCLID AND PURE GEOMETRY.

A Text-Book of Euclid's Elements for the Use of Schools. By H. S. Hall, M.A., and F. H. Stevens, M.A. Books I.—VI. and XI. 4s. 6d. Books I. and II. 2s. Books I.—IV. 3s. Books III. and IV. 2s. Books III.—VI. 3s. Book XI. 1s. [*Key—In preparation.*

Elementary Geometry. Books I.—V. Containing the Subjects of Euclid's First Six Books. By the Rev. J. M. Wilson, M.A. 4s. 6d.

Solid Geometry and Conic Sections. With Appendices on Transversals and Harmonic Division. By Rev. J. M. Wilson, M.A. 3s. 6d.

The Progressive Euclid. Books I. and II. By A. T. Richardson, M.A. Gl. 8vo. 2s. 6d.

HIGHER MATHEMATICS.

A Treatise on the Theory of Determinants. With graduated sets of Examples. By Thomas Muir, M.A., F.R.S.E. 7s. 6d.

Geometrical Treatise on Conic Sections. By W. H. Drew, M.A. Crown 8vo. 5s.

Plane Co-Ordinate Geometry, as applied to the Straight Line and the Conic Sections. By I. Todhunter, M.A. Crown 8vo. 7s. 6d. Key. 10s. 6d.

Examples of Analytical Geometry of Three Dimensions. By I. Todhunter, M.A. New Edition, revised. Crown 8vo. 4s.

A Treatise on Geometrical Conics, in accordance with the Syllabus of the Association for the Improvement of Geometrical Teaching. By A. Cockshott, M.A., and Rev. F. B. Walters, M.A. With Diagrams. Crown 8vo. 5s.

Conic Sections. By Charles Smith, M.A. 7s. 6d. Key. 10s. 6d.

An Elementary Treatise on Solid Geometry. By the same Author. 9s. 6d.

The Differential Calculus. An Elementary Treatise. By Joseph Edwards, M.A. 10s. 6d.

A Treatise on the Differential Calculus. By I. Todhunter, F.R.S. 10s. 6d. Key. 10s. 6d.

A Treatise on the Integral Calculus. By the same. 10s. 6d. Key. 10s. 6d.

A Treatise on Differential Equations. By A. R. Forsyth, M.A. 14s.

MACMILLAN & CO., LONDON.

Messrs MACMILLAN & CO.'S PUBLICATIONS.

TRIGONOMETRY.

Trigonometry for Beginners, as far as the Solution of Triangles. By Rev. J. B. Lock, M.A. 2s. 6d. Key. 6s. 6d.

Elementary Trigonometry. By the same. 4s. 6d. Key. 8s. 6d.

Higher Trigonometry. By the same. 4s. 6d. Both parts complete in One Volume. Globe 8vo. 7s. 6d.

Trigonometry for Beginners. By I. Todhunter, F.R.S. With numerous Examples. 2s. 6d. Key. 8s. 6d.

Plane Trigonometry. By the same. New Edition. Crown 8vo. 5s. Key. 10s. 6d.

A Treatise on Spherical Trigonometry. By the same. New Edition, enlarged. Crown 8vo. 4s. 6d.

A Treatise on Plane Trigonometry. By W. E. Johnson, M.A. Crown 8vo. 8s. 6d.

Elements of Trigonometry. By Rawdon Levett and Charles Davison. [*In the Press.*

Examples for Practice in the Use of Seven-Figure Logarithms. By J. Wolstenholme, D.Sc. 8vo. 5s.

A Treatise on Spherical Trigonometry. With numerous Examples. By William J. M'Clelland, M.A., and Thomas Preston, M.A. 8s. 6d. Or in Two Parts.—Part I. To the End of Solution of Triangles. 4s. 6d. Part II. 5s.

NATURAL PHILOSOPHY.

A Treatise on Elementary Statics. By John Greaves, M.A. Crown 8vo. 6s. 6d.

Statics for Beginners. By the same. Globe 8vo. 3s. 6d.

Elementary Statics. By the Rev. J. B. Lock, M.A. Globe 8vo. 4s. 6d.

Introduction to Quaternions. With Numerous Examples. By Professors P. Kelland, M.A., F.R.S., and P. G. Tait, M.A. Second Edition. 7s. 6d.

Elementary Dynamics. By the Rev. J. B. Lock, M.A. 4s. 6d.

Kinematics and Dynamics. An Elementary Treatise. By J. G. Macgregor. 10s. 6d.

A Treatise on Dynamics of a Particle. With numerous Examples. By Professor Tait and W. J. Steele. 6th Edition, revised. Crown 8vo. 12s.

Elementary Lessons in Astronomy. By J. N. Lockyer, F.R.S. 5s. 6d.

A Text-Book of the Principles of Physics. By Alfred Daniell, M.A. With Illustrations. Second Edition, revised and enlarged. Medium 8vo. 21s.

Four-Figure Mathematical Tables for Physical Calculation. By J. T. Bottomley, M.A. 8vo. 2s. 6d.

Absolute Measurements in Electricity and Magnetism. By Andrew Gray, M.A. Second Edition. 5s. 6d.

Elementary Lessons in Electricity and Magnetism. By Silvanus P. Thompson. 4s. 6d.

Lessons in Elementary Physics. By Balfour Stewart. 4s. 6d. Questions. 2s.

Elementary Practical Physics, Lessons in. By Balfour Stewart, F.R.S., and W. W. Haldane Gee, B.Sc. Crown 8vo. Vol. I.—General Physical Processes. 6s. Vol. II.—Electricity and Magnetism. 7s. 6d. Vol. III. —Optics, Heat, and Sound. [*In the Press.*

Heat. By Prof. P. G. Tait, M.A., Sec. R.S.E. 6s.

Heat, Light, and Sound. By D. E. Jones, B.Sc. Gl. 8vo. 2s. 6d.

MACMILLAN & CO., London.

Messrs MACMILLAN & CO.'S PUBLICATIONS.

FIRST YEAR'S MEDICAL COURSE—SUMMER SESSION.

BOTANY.

A Course of Practical Instruction in Botany. By Prof. F. O. Bower, D.Sc. 10s. 6d.

The Student's Flora of the British Islands. By Sir J. D. Hooker, F.R.S. 10s. 6d.

Lessons in Elementary Botany. By D. Oliver, F.R.S. 4s. 6d.

NATURAL HISTORY.

A Course of Instruction in Zootomy (Vertebrata). By Prof. T. Jeffrey Parker, B.Sc. 8s. 6d.

Lessons in Elementary Biology. By the Same. Crown 8vo. 10s. 6d.

An Atlas of Practical Elementary Biology. By G. B. Howes. With a Preface by T. H. Huxley, F.R.S. 14s.

Elements of the Comparative Anatomy of Vertebrates. Adapted from the German of Prof. Wiedersheim, by Prof. W. N. Parker. 12s. 6d.

An Introduction to the Osteology of the Mammalia. By Prof. W. H. Flower, LL.D. Revised with the assistance of Hans Gadow, Ph.D. 10s. 6d.

A Treatise on Comparative Embryology. By F. M. Balfour, M.A. 2 vols. Vol. I., 18s. Vol. II., 21s.

The Elements of Embryology. By Prof. M. Foster, F.R.S., and F. M. Balfour, M.A. Edited by A. Sedgwick, M.A., and W. Heape. 10s. 6d.

FIRST YEAR'S MEDICAL COURSE—WINTER SESSION.

ANATOMY.

Lessons in Elementary Anatomy. By St G. Mivart, F.R.S. 6s. 6d.

CHEMISTRY.

Lessons in Elementary Chemistry, Inorganic and Organic. By Sir H. Roscoe, F.R.S. 4s. 6d.

Inorganic and Organic Chemistry. By Sir H. E. Roscoe, F.R.S., and Prof. C. Schorlemmer, F.R.S.

Vols. I. and II.—**Inorganic Chemistry.**
Vol. I.—The Non-Metallic Elements. 21s. Vol. II.—Two Parts. 18s. each.

Vol. III.—**Organic Chemistry.**
Five Parts. Parts I., II., and IV. 21s. each. Parts III. and V. 18s. each.

An Introduction to the study of Chemistry (Inorganic Chemistry). By Prof. Ira Remsen. 6s. 6d.

Compounds of Carbon ; or, Organic Chemistry, an Introduction to the Study of. By Prof. Ira Remsen. 6s. 6d.

An Elementary Text Book of Chemistry. By Prof. William G. Mixter. Second Edition Revised. 7s. 6d.

A Course of Quantitative Analysis for Students. By Prof. W. Noel Hartley, F.R.S. 5s.

MACMILLAN & CO., LONDON,

Messrs MACMILLAN & CO.'S PUBLICATIONS.

MATERIA MEDICA.

A Text-Book of Pharmacology, Therapeutics, and Materia Medica. By T. Lauder Brunton, M.D., F.R.S. Adapted to the United States Pharmacopœia, by F. H. Williams, M.D. Adapted to the New British Pharmacopœia, 1885, and Additions 1891. 21s.; or in 2 Vols., 22s. 6d.

Tables of Materia Medica: A Companion to the Materia Medica Museum. By the Same. 5s.

Pharmacology and Therapeutics; or, Medicine Past and Present. By the Same. 6s.

The Connection between Chemical Constitution and Physiological Action: being an Introduction to Modern Therapeutics. (Croonian Lectures.)

Lessons on Prescriptions and the Art of Prescribing. By W. H. Griffiths, Ph.D. Adapted to the Pharmacopœia, 1885. 3s. 6d.

A Text-Book of General Therapeutics: being an Account of Climate, Diet, Massage, Electricity, Hypnotism, Baths, Venesections, &c. By W. Hale White, M.D., F.R.C.P., Senior Assistant Physician to and Lecturer in Materia Medica at Guy's Hospital. With Illustrations. Crown 8vo. 8s. 6d.

PHYSIOLOGY.

A Course of Practical Instruction in Elementary Biology. By T. H. Huxley, F.R.S., assisted by H. N. Martin, M.A., revised and extended by G. B. Howes, and D. H. Scott, M.A. With a Preface by T. H. Huxley, F.R.S. 10s. 6d.

A Text-Book of Physiology. By Prof. M. Foster, M.D., F.R.S. Fifth Edition. Part I., comprising Book I. Blood—The Tissues of Movement, The Vascular Mechanism. 10s. 6d. Part II., comprising Book II. The Tissues of Chemical Action with their Respective Mechanisms—Nutrition. 10s. 6d. Part III. Book III. The Central Nervous System. 7s. 6d. Book IV. The Tissues and Mechanisms of Reproduction.

A Manual of Elementary Practical Histology. By W. Fearnley. 7s. 6d.

A Course of Elementary Practical Physiology and Histology. By Prof. M. Foster, M.D., F.R.S., and J. N. Langley, M.A. 7s. 6d.

Lessons in Elementary Physiology. By T. H. Huxley, F.R.S. 4s. 6d. Questions on the above. By T. Alcock, M.D. 1s. 6d.

PATHOLOGY.

Text-Book of Pathological Anatomy and Pathogenesis. By Professor E. Ziegler. Translated and Edited by D. Macalister, M.A.

Part I.—**General Pathological Anatomy.** 12s. 6d.

Part II.—**Special Pathological Anatomy.** Sections I.—VIII., 12s. 6d. Sections IX.—XII. 12s. 6d.

A Text-Book of Pathology, Systematic and Practical. By Prof. D. J. Hamilton, M.B., F.R.C.S.E., F.R.S.E. Vol. I. 25s.

Micro-Organisms and Disease. An Introduction into the Study of Specific Micro-Organisms. By E. Klein, M.D. 6s.

The Bacteria in Asiatic Cholera. By the Same. 5s.

Catalogues of Messrs MACMILLAN & CO.'s New and Forthcoming Educational Publications and Works in GENERAL LITERATURE post free on application.

MACMILLAN & CO., LONDON.

Clarendon Press List of Standard Educational Works.

LATIN.

Extra fcap. 8vo, cloth.

Reddenda Minora; Or, Easy Passages, Latin and Greek, for Unseen Translation. For the Use of Lower Forms. By C. S. Jerram, M.A. 1s. 6d.

Anglice Reddenda; Or, Easy Extracts, Latin and Greek, for Unseen Translation. By the same. First Series. 2s. 6d. Second Series. 3s.

Passages for Translation into Latin. For the use of Passmen and others. Selected by J. Y. Sargent, M.A. Seventh Edition. 2s. 6d. Key for Teachers only. 5s.

A Latin Prose Primer. By the same. 2s. 6d.

First Latin Reader. By J. T. Nunns, M.A. Third Edition. 2s.

Hints and Helps for Latin Elegiacs. By H. Lee Warner, M.A. 3s. 6d. Key for Tutors only. 4s. 6d.

An Introduction to the Comparative Grammar of Greek and Latin. By J. E. King, M.A., and C. Cookson, M.A. 5s. 6d.

Cæsar. The Commentaries (for Schools). By C. E. Moberly, M.A.

Part I. The Gallic War. Books I. and II., 2s. III.-V., 2s. 6d. VI.-VIII., 3s. 6d.

Part II. The Civil War. 3s. 6d.

Cicero. Interesting and Descriptive Passages. By H. Walford, M.A. Third Edition. In Three Parts. 4s. 6d. Each separately, 1s. 6d.

Cicero: Selected Letters (for Schools). By the late C. E. Prichard, M.A., and E. R. Bernard, M.A. Third Edition. 3s.

Cicero: Selected Orations (for Schools). By J. R. King, M.A. Second Edition. 2s. 6d.

Cicero. Speeches against Catilina. By E. A. Upcott, M.A. 2s. 6d.

Cicero pro Cluentio. By W. Ramsay, M.A. Second Edition. Edited by G. G. Ramsay, M.A. 3s. 6d.

Cornelius Nepos. By Oscar Browning, M.A. Third Edition, Revised by W. R. Inge, M.A. 3s.

Horace. The Odes, Carmen Seculare, and Epodes. By E. C. Wickham, M.A. Second Edition. 6s.

Horace Selected Odes. For the Fifth Form. By the same. 2s.

Juvenal. With Notes by C. H. Pearson, M.A., and H. A. Strong, M.A. 6s.

"Truly admirable."—*Athenæum.*

Livy: Selections (for Schools). By H. Lee-Warner, M.A. In Three Parts, limp, each 1s. 6d.

Livy: Books V.-VII. By A. R. Cluer, B.A. Second Edition. 5s. Book V., 2s. 6d.

Livy: Books XXI.-XXIII. With Notes, etc. By M. T. Tatham, M.A. Second Edition. 4s. 6d. Books XXI. and XXII., 2s. 6d. each.

Ovid. Tristia. Book I. Edited by S. G. Owen, B.A. 3s. 6d.

—— **Book III.** By the same. 2s.

Ovid: Selections (for the Use of Schools.) By W. Ramsay, M.A. Edited by G. G. Ramsay, M.A. Second Edition. 5s. 6d.

Plautus: Trinummus. By C. E. Freeman, M.A., and A. Sloman, M.A. 3s.

Plautus: Captivi. With Notes by W. M. Lindsay, M.A. 2s. 6d.

Pliny: Selected Letters (for Schools). By the late C. E. Prichard, M.A., and E. R. Bernard, M.A. Third Edition. 3s.

Sallust: Bellum Catilinarium and Jugurthinum. By W. W. Capes, M.A. 4s. 6d.

Terence. Andria. With Notes, etc. By C. E. Freeman, M.A., and A. Sloman, M.A. 3s.

Terence. Adelphi. By A. Sloman, M.A. 3s.

Terence. Phormio. By A. Sloman, M.A. 3s.

Tibullus and Propertius. Selections. With Notes. By G. G. Ramsay, M.A. 6s.

Virgil. Bucolics. By C. S. Jerram, M.A. 2s. 6d.

Virgil. Aeneid I. By the same. 1s. 6d.

Virgil. Aeneid IX. By A. E. Haigh, M.A., 1s. 6d. In two Parts. 2s.

Demy 8vo, cloth.

Avianus, The Fables of. With Prolegomena, &c. By Robinson Ellis, M.A. 8s. 6d.

Cicero de Oratore. By Prof. A. S. Wilkins, M.A. Second Edition. Book I. 7s. 6d. Book II. 5s.

Cicero's Philippic Orations. By J. R. King, M.A. Second Edition. 10s. 6d.

Cicero: Select Letters. By Albert Watson, M.A. Third Edition. 18s.

P. Ovidi Nasonis Tristium Libri V. Recensuit S. G. Owen, A.M. 16s.

Persius. The Satires. With a Translation and Notes. By J. Conington, M.A. Edited by H. Nettleship, M.A. Second Edition. 7s. 6d.

Tacitus: The Annals. With Notes, by H. Furneaux, M.A. Vol. I., Books I.-VI. 8vo. 18s.

*** **Books I.-VI.** Abridged for Schools and Junior Students. Feap. 8vo. 5s.

Fragments and Specimens of Early Latin. By J. Wordsworth, D.D. 18s.

Roman Poets of the Augustan Age. Virgil. By W. Y. Sellar, M.A. New Edition. Crown 8vo. 9s.

Roman Poets of the Republic. By the same. Third Edition. Crown 8vo. 10s.

The Principles of Sound and Inflexion in Greek and Latin. By J. E. King, M.A., and C. Cookson, M.A. 18s.

Full Clarendon Press Catalogues free on application.

London: HENRY FROWDE, Clarendon Press Warehouse, Amen Corner, E.C.

ClarendonPress List of Standard Educational Works.

GREEK.

Extra fcap. 8vo, cloth.

Wordsworth's Greek Grammar. 4s.
Wordsworth's Greek Primer. 1s. 6d.
Graduated Greek Readers:
First. By W. G. Rushbrooke, M.A. 2s. 6d.
Second. By. A, M. Bell, M.A. 3s. 6d.
Aeschylus: Prometheus Bound (for Schools). By A. O. Prickard, M.A. Second Edition. 2s.
—— **Agamemnon.** By A. Sidgwick, M.A. Third Edition. 3s.
—— **Eumenides.** By the same. 3s.
—— **Choephoroi.** By the same. 3s.
Demosthenes. Orations against Philip. By E. Abbott, M.A., and P. E. Matheson, M.A. Vol. I., 3s.; Vol II., 4s. 6d.
Euripides. Medea. By C. B. Heberden, M.A. 2s.
Euripides. Hecuba. By C. H. Russell, M.A. 2s. 6d.
Herodotus. Book IX. By E. Abbott, M.A. 3s.
Homer: Iliad. Books I.-XII. (for Schools). By D. B. Munro, M.A., LL.D. 6s.
Book I., separately, 2s.
—— **Books XIII.-XXIV.** By the same Editor. 6s.
"THE Edition for English schools."—*Guardian.*
Homer: Iliad. Book XXI. By H. Hailstone, M.A. 1s. 6d.
Lysias. Epitaphios. With Notes. By F. J. Snell, B.A. 2s.
Sophocles. By L. Campbell, M.A., and E. Abbott, M.A., 10s. 6d. Introduction and Text, 4s. 6d. Notes. 6s. In Single Plays. Oedipus Tyrannus, Philoctetes. 2s. each. —Oedipus Coloneus, Antigone. 1s. 9d. each. —Ajax, Electra, Trachiniæ. 2s. each.
"Are sure to have a wide circulation."—*Athenæum.*
Theocritus (for Schools). By H. Kynaston, D.D. Fourth Edition. 4s. 6d.
Plato. The Apology. By St George Stock, M.A. Second Edition. 2s. 6d.
Plato. The Meno. By the same. 2s. 6d.
Xenophon: Selections (for Schools). By J. S. Phillpotts, B.C.L. Fourth Edition. 3s. 6d.
Xenophon: Easy Selections. By J. S. Phillpotts, B.C.L., and C. S. Jerram, M.A. 3s. 6d.
Xenophon Anabasis. Books I. and III. With Notes. By J. Marshall, M.A. 2s. 6d. each.
Xenophon: Cyropædia. Books IV. and V. By C. Bigg, D.D. 2s. 6d.
Xenophon: Cyropædia. Book I. By the same Editor. 2s.
Xenophon: Hellenica. Books I. and II. By G. E. Underhill, M.A. 3s.

By C. S. JERRAM, M.A.

Euripides. Alcestis (for Schools). 2s. 6d
Euripides. Helena. For Upper and Middle Forms. 3s.
Euripides Heracleidæ. 3s.
Euripides: Iphigenia in Tauris. 3s.
Lucian. Vera Historia (for Schools). Second Edition. 1s. 6d.

By W. W. MERRY, M.A.

Herodotus: Selections from. 2s. 6d.
Homer: Odyssey (for Schools). **Books I.-XII.** Forty-fifth Thousand. 5s.
Book I., Book II., separately, 1s. 6d. each.
Books XIII.-XXIV. Second Edition. 5s.
"Has revolutionized the study of Homer."—*Oxford Magazine.*
Aristophanes. With Notes, etc.
—— **The Acharnians.** Third Edition. 3s.
—— **The Clouds.** Second Edition. 2s.
—— **The Frogs.** Second Edition. 3s.
—— **The Knights.** Second Edition. 3s.
—— **The Birds.** 3s. 6d.

Demy 8vo.

Sophocles: The Plays and Fragments. By L. Campbell, M.A., 2 vols. Vol. I. Oedipus Tyrannus, Oedipus Coloneus. Antigone, Second Edition, 16s. Vol. II. Ajax, Electra, Trachiniæ, Philoctetes, Fragments. 16s.
Homer: Odyssey. Books I.-XII. By W. W. Merry, M.A., and the late J. Riddell, M.A. Second Edition. 16s.
The Attic Theatre. A Description of the Stage and Theatre of the Athenians, and of the Dramatic Performances at Athens. By A. E. Haigh, M.A. 8vo, 12s. 6d.
Historia Numorum: A Manual of Greek Numismatics. By B. V. Head. Royal 8vo, half-bound, £2, 2s.
A Grammar of the Homeric Dialect. By D. B. Monro, M.A., LL.D. Second Edition. 10s. 6d.
Aristotle. The Politics. With Introduction, Notes, &c. By W. L. Newman, M.A., Fellow of Baliol College, Oxford. Vols. I. and II. 8vo, cloth, 28s.

By Professor JOWETT, M.A.

The Politics of Aristotle. Translated with Introduction, Marginal Analysis, Essays, Notes, and Indices. 2 vols. 8vo, 21s.
Plato: The Dialogues. Translated with Analysis and Introductions. A New Edition. In 5 vols., £3, 10s.
Plato: The Republic. Translated with Analysis & Introduction. Third Ed. 12s. 6d.
Thucydides. Translated with Introductions, Notes, &c. 2 vols., 32s.

Full Clarendon Press Catalogues Free on Application.

London: HENRY FROWDE, Clarendon Press Warehouse, Amen Corner, E.C.

Clarendon Press List of Standard Educational Works.

ENGLISH.

A New English Dictionary on Historical Principles. Edited by James A. H. Murray, LL.D. Imperial 4to, Vol. I. A.-B., 52s. 6d. Part IV., Sect. II., C.-Cass., 5s.; Part V., Cass.-Clivy, 12s. 6d.

Shakespeare.—Select Plays. By W. G. Clark, M.A., and W. Aldis Wright, M.A. Stiff covers.

The Merchant of Venice. 1s.
Richard the Second. 1s. 6d.
Hamlet. 2s.
Macbeth. 1s. 6d.

—Select Plays. By W. Aldis Wright, M.A.

The Tempest. 1s. 6d.
As You Like It. 1s. 6d.
Julius Cæsar. 2s.
Richard the Third. 2s. 6d.
King Lear. 1s. 6d.
A Midsummer Night's Dream. 1s. 6d.
Coriolanus. 2s. 6d.
Henry the Fifth. 2s.
Twelfth Night. 1s. 6d.
King John. 1s. 6d.
Henry the Eighth. 2s.

Spenser's Faery Queene. Book I. (Eighth Edition), and Book II. (Sixth Edition). By G. W. Kitchin, D.D. 2s. 6d. each.

By Prof. SKEAT, M.A.

An Etymological Dictionary of the English Language, arranged on a Historical Basis. 4to, cloth. £2, 4s.

A Supplement to the First Edition. 2s. 6d.

A Concise Etymological Dictionary of the English Language. Crown 8vo. Fourth Edition. 5s. 6d.

Principles of English Etymology. Crown 8vo. Part I. 9s. Part II. 10s. 6d.

Specimens of English Literature (A.D. 1394 to A.D. 1579). With Notes. 7s. 6d.

The Vision of William concerning Piers the Plowman. By William Langland. Fourth Edition. 4s. 6d.

Chaucer. Prologue to the Canterbury Tales. (School Edition.) 1s.

Chaucer: The Prioresses Tale Sir Thopas: The Monkes Tale; The Clerkes Tale; The Squieres Tale, &c. 4s. 6d.

Chaucer: The Tale of the Man of Lawe; The Pardoneres Tale; The Second Nonnes Tale; The Chanouns Yemannes Tale. 4s. 6d.

Chaucer. The Legend of Good Women. Crown 8vo. 6s.

The Tale of Gamelyn From the Harleian MS. Stiff Covers. 1s. 6d.

By HENRY SWEET, M.A.

History of English Sounds from the earliest Period. 8vo. 14s.

An Anglo-Saxon Primer. Sixth Edition. 2s. 6d.

An Anglo-Saxon Reader. Sixth Edition. 8s. 6d.

Selected Homilies of Ælfric. 1s. 6d.

Extracts from Alfred's Orosius. 1s. 6d.

Specimens of Early English. By R. Morris, LL.D., and W. W. Skeat, M.A.

—— Part I. A.D. 1150 to A.D. 1300. Second Edition. 9s.

——Part II. A.D. 1298 to A.D. 1300. 7s. 6d.

Milton: Poems. By R. C. Browne, M.A. 2 vols. 6s. 6d.

Separately, Vol. I., 4s.; Vol. II., 3s.

Milton: Paradise Lost. Book I. By H. C. Beeching. 1s. 6d.

Johnson, Boswell's Life of. Edited by G. B. Hill, D.C.L. In 6 vols., with Portraits and Facsimiles. 8vo, half-bound, £3, 3s.

Johnson. Rasselas. Edited by G. Birkbeck Hill, D.C.L. 3s. 6d. Parchment, 4s. 6d.

Johnson. Wit and Wisdom of Samuel Johnson. Selected and arranged by G. Birkbeck Hill. Crown 8vo. 7s. 6d.

Pope. By Mark Pattison, B.D.

I. Essay on Man. Sixth Edition. 1s. 6d.

II. Satires and Epistles. 2s.

Locke's Conduct of the Understanding. By T. Fowler, M. A. 2s.

Dryden: Select Poems. By W. D. Christie, M.A. 3s. 6d.

Addison: Selections. By T. Arnold, M.A. 4s. 6d. Parchment, 6s.

Cowper. With Life, Notes, &c. By H. T. Griffith. In 2 vols., each 3s.

Gray. Select Poems. Edited with a Sketch of his Life, by Edmund Gosse. Stiff covers, 1s. 6d. Parchment, 3s.

—— Editon for Schools. With Notes by Foster Watson, M.A.

Steele. Selections from the *Tatler*, *Spectator*, and *Guardian*. By Austin Dobson. 5s. Parchment, 7s. 6d.

Byron's Childe Harold. Edited by H. F Tozer, M.A. 3s. 6d. Parchment, 5s.

Goldsmith. Selected Poems. Edited by Austin Dobson. Extra feap. 8vo, cloth, 3s. 6d. In White Parchment, 4s. 6d.

Goldsmith. The Traveller. By G. B. Hill. 1s.

Scott. Marmion. By T. Bayne. 3s. 6d.

Scott. Lay of the Last Minstrel. By W. Minto. Stiff Covers, 2s Parchment, 3s. 6d.

Burns. Selected Poems. Edited by J. Logie Robertson, M.A. 6s.

Selections from Berkeley. With Notes, etc. For the Use of Students. By A. C. Fraser, LL.D. Fourth Edition. Crown 8vo. 8s. 6d.

Aspects of Poetry: being Lectures delivered at Oxford. By J. C. Shairp, LL.D., late Prof. of Poetry, Oxford. 10s. 6d.

Full Clarendon Press Catalogues Free on Application.

London: HENRY FROWDE, Clarendon Press Warehouse, Amen Corner, E.C.

Clarendon Press List of Standard Educational Works.

MATHEMATICS AND SCIENCE.

Euclid Revised. Containing the Essentials of the Elements of Plane Geometry as given by Euclid in his First Six Books. By R. C. J. Nixon, M.A. Crown 8vo. 6s. Sold also in Parts:—Book I., 1s. I.-II., 1s. 6d. I.-IV., 3s. V.-VI., 3s.

A Text-Book of Algebra (with Answers to the Examples). By W. S. Aldis, M.A. Crown 8vo. 7s. 6d.

Geology: Chemical, Physical, and Stratigraphical. By Joseph Prestwich, M.A., F.R.S. Two vols., roy. 8vo.
Vol. I. *Chemical and Physical.* 25s.
Vol. II. *Physical and Stratigraphical.* With a new Geological Map of Europe. 36s.

A Treatise on Statics. By G. M. Minchin, M.A. Vol. I. Fourth Edition. The Equilibrium of Co-planar Forces. 10s.6d. Vol. II. Third Edition. 16s.

Forms of Animal Life. A Manual of Comparative Anatomy. By the late G. Rolleston, F.R.S. Revised and Enlarged by W. Hatchett Jackson, M.A. Roy. 8vo. 36s.

Sachs (Julius Von). Lectures on the Physiology of Plants. Translated by H. Marshall Ward, M.A. Roy. 8vo. 31s. 6d.

History of Botany (1530-1860). By Julius von Sachs. Authorised Translation. Revised by I. B. Balfour, M.A. Cr. 8vo. 10s.

Comparative Anatomy of the Vegetative Organs of the Phanerogams and Ferns By A. De Bary. Translated and Annotated by F. O. Bower, M.A., and D. H. Scott, Ph.D. Roy. 8vo. 22s. 6d.

Outlines of Classification and Special Morphology of Plants. *A New Edition of Sachs' Text-Book of Botany*, Book II. By Dr K. Goebel. Authorised Translation. Revised by I. B. Balfour, M.A. Roy. 8vo. 21s.

Comparative Morphology and Biology of Fungi, Mycetozoa and Bacteria. By Dr A. De Bary. Authorised Translation. Revised by I. B. Balfour, M.A. Roy. 8vo. 22s. 6d.

The Anatomy of the Frog. By Dr A. Ecker. Translated, with numerous Annotations and Additions, by G. Haslam, M.D. 8vo. 21s.

Essays upon Heredity and kindred Biological Problems. By Dr August Weismann. Authorised Translation. Edited by E. B. Poulton, M.A., F.L.S., F.G.S. 8vo. 16s.

HISTORY AND PHILOSOPHY.

The Constitutional History of England in its Origin and Development. By W. Stubbs, D.D. Library Edition. 3 vols. 8vo. 48s.
*** Also in three vols. cr. 8vo, 12s. each.

Lectures on Medieval and Modern History. By W. Stubbs, D.D. Cr. 8vo. 8s. 6d.

A History of England, principally in the Seventeenth Century. By Leopold Von Ranke. Translated under the superintendence of G. W. Kitchin, D.D., and C. W. Boase, M.A. 6 vols. 8vo. £3, 3s.

A Short History of the Norman Conquest of England. By E. A. Freeman, M.A., Hon. D.C.L. Extra fcap. 8vo. 2s. 6d.

A History of the Norman Conquest of England: its Causes and Results. By the same. 6 vols. 8vo. £5, 9s. 6d.

The Reign of William Rufus and the Accession of Henry I. By the same. 2 vols. 8vo. 36s.

A History of Sicily from the Earliest Times. By the Same. With Coloured Maps. Demy 8vo. Vols. I. and II. 42s.
Other Volumes are in preparation.

A History of France. By G. W. Kitchin, D.D. 3 vols. crown 8vo. Each 10s. 6d.

A Manual of Ancient History. By G. Rawlinson, M.A. Second Edition. 8vo. 14s.

Bluntschli's Theory of the State. Authorised English Translation from the Sixth German Edition. 8vo. 12s. 6d.

A History of Greece from B.C. 146 to A.D. 1864. By George Finlay, LL.D. A New Edition, Revised throughout and Edited by H. F. Tozer, M.A. 7 vols. 8vo. £3, 10s.

The Dynasty of Theodosius. By T. Hodgkin, D.C.L. Crown 8vo. 6s.

Logic, or the Morphology of Knowledge. By B. Bosanquet, M.A. 8vo. 21s.

Lotze's System of Philosophy. English Translation. Edited by B. Bosanquet, M.A. Second Edition. Crown 8vo.
Logic. In Three Books—of Thought, of Investigation, and of Knowledge. 12s. 6d.
Metaphysic. In Three Books—Ontology, Cosmology, and Psychology. 2 vols. 12s.

Hume's Treatise of Human Nature. Edited by L. A. Selby-Bigge. Cr. 8vo. 9s.

Prolegomena to Ethics. By the late Professor Green, M.A., LL.D. Edited by A. C. Bradley, M.A. Third Edition. 8vo. 12s. 6d.

Types of Ethical Theory. By James Martineau, D.D., LL.D. Third Edition. 2 vols. Cr. 8vo. 15s.

A Study of Religion, its Sources and Contents. By the same Author. Second Edition. 2 vols. cr. 8vo. 15s.

Elementary Political Economy. By E. Cannan, M.A. Stiff Covers. 1s.

Elementary Politics. By T. Raleigh, M.A. Stiff Covers. 1s.

Full Clarendon Press Catalogues Free on Application.

London: HENRY FROWDE, Clarendon Press Warehouse, Amen Corner, E.C.

Messrs BELL'S EDUCATIONAL WORKS.

FOR THE EXAMINATIONS, 1891-92.

ENGLISH—

Notes on Shakespeare's Coriolanus. With Historical and Critical Introduction, Summary, Notes Etymological and Explanatory, Appendices on Prosody, Grammatical Peculiarities, &c. By T. Duff Barnett, B.A. (Lond.). 1s.
Notes on Shakespeare's Hamlet. By T. Duff Barnett, B.A. (Lond.). 1s.
Notes on Shakespeare's Henry V. By T. Duff Barnett, B.A. (Lond.). 1s.

By the same Editor. 1s. *each.*

Notes on Julius Cæsar—Midsummer Night's Dream—Macbeth—Tempest—Merchant of Venice—Richard II.—King John—King Lear.

Milton.—Paradise Lost. Book I. and Book II. With Notes on the Analysis and on the Scriptural and Classical Allusions, a Glossary of Difficult Words, and Life of Milton. By C. P. Mason, B.A., F.C.P. 5th Edition, 1s. each.
The Elements of the English Language. By Ernest Adams, Ph.D., 24th Edition. Thoroughly Revised and greatly Enlarged by J. F. Davis, D.Lit., M.A. 4s. 6d.
The Rudiments of English Grammar and Analysis. By Ernest Adams, Ph.D. 17th Thousand. 1s.
A Concise System of English Parsing. By Lionel E. Adams, B.A. 1s. 6d.
Early English Literature (to Wiclif). By Bernhard ten Brink. Translated by Horace M. Kennedy. 3s. 6d.

LATIN—Annotated Editions—

Cæsar: de Bello Gallico. Book I. Edited by G. Long, M.A. With Vocabulary, 1s. 6d.
Cæsar: de Bello Gallico. Books I. to III. By George Long, M.A. 1s. 6d.
Cæsar: de Bello Gallico. Books IV. and V. By George Long, M.A. 1s. 6d.
Cæsar: de Bello Gallico. Books VI. and VII. By George Long, M.A. 1s. 6d.
Cicero: de Senectute. By George Long, M.A. 1s. 6d.
Cicero: de Amicitia. By George Long, M.A. 1s. 6d.
Cornelius Nepos. By J. F. Macmichael, M.A. 2s.
Horace: Odes. Carmen Seculare, and Epodes. By A. J. Macleane, M.A. 2s.
Horace: Odes. Book I. With Notes at the end by A. J. Macleane, M.A., and Vocabulary. 1s. 6d.
Horace: Satires, Epistles, and Art of Poetry. By A. J. Macleane, M.A. 2s.
Juvenal: Sixteen Satires (Expurgated). By Herman Prior, M.A. 3s. 6d.
Livy. Books I., II., III., IV., V. By J. Prendeville. 1s. 6d. each.
Livy. Book XXI. and Book XXII. By the Rev. L. D. Dowdall, M.A., B.D. Each 3s. 6d.
Martial (Select Epigrams). By Paley and Stone. 4s. 6d.
Ovid: Metamorphoses. Book XIII. By C. H. Keene, M.A. 2s. 6d.
Ovid: Fasti. Books I. and II. and Books III. and IV. By F. A. Paley, M.A., LL.D. 1s. 6d. each.
Plautus: Mostellaria. By Prof. Sonnenschein. 5s.
Plautus: Trinummus, Aulularia, and Menœchines. Edited by Dr Wagner. 4s. 6d. each.
Sallust: Catilina and Jugurtha. By G. Long and J. G. Fraser. 3s. 6d., or in Two Parts, each 2s.
Tacitus: Germania and Agricola. Edited by the late Rev. P. Frost, M.A., Fellow of St John's College, Cambridge. 2s. 6d.
Terence: Adelphi. By W. Wagner, Ph.D. 1s. 6d.

London: GEORGE BELL & SONS.

MESSRS BELL'S EDUCATIONAL WORKS.—*Continued.*

LATIN—Annotated Editions—*continued*—

Virgil: Bucolics, Georgics, and Æneid. Books I.-IV. By the Rev. J. G. Sheppard, D.C.L. Abridged from Professor Conington's Edition. 4s. 6d.

Virgil: Æneid. Books V.-XII. Abridged from Professor Conington's Edition by H. Nettleship, Corpus Professor of Latin at Oxford, and W. Wagner, Ph.D. 4s. 6d.

Virgil. Book I. Professor Conington's Edition, Abridged, with Notes and Vocabulary. 1s. 6d.

Virgil. 12 vols. Professor Conington's Edition. Abridged by Professors Nettleship and Wagner and the Rev. J. G. Shepherd, D.C.L. Bucolics; Georgics, I. and II.; Georgics, III. and IV.; Æneid I. and II.; Æneid III. and IV.; Æneid V. and VI. (2s.), Æneid VII., Æneid, VIII., Æneid IX., Æneid X., Æneid XI., Æneid XII. 1s. 6d. each.

"The handiest as well as the soundest of modern editions."—*Saturday Review.*

GREEK—Annotated Editions—

Æschylus: Agamemnon, Choephoroe, Eumenides, Persæ, Prometheus Vinctus. Septem contra Thebas. By F. A. Paley, LL.D. Each 1s. 6d.

Euripides: Ion (2s.) **Alcestis, Andromache, Bacchae. Hecuba, Hercules Furens, Hippolytus, Iphigenia in Tauris, Medea, Phœnissæ, Troades.** By F. A. Paley, LL.D. Each 1s. 6d.

Greek Testament. St Matthew, St Mark, St Luke, St John, The Acts of the Apostles. 5 Sections. By J. F. Macmichael, M.A. Each 6d.

Homer: Iliad. Book I.-XII. Edited by F. A. Paley, M.A., LL.D., 4s.; or in Two Parts, Books I.-VI., 2s 6d. Books VI.-XII., 2s. 6d.

Plato: Apology of Socrates and Crito. By W. Wagner, Ph.D. 2s. 6d.

Plato: Phædo. By W. Wagner, Ph.D. 5s. 6d.

Plato: Republic. Books I. and II. By S. H. Wells. M.A. 5s. 6d.

Sophocles: Antigone, Electra, Oedipus Coloneus. By F. A. Paley, LL.D. Each, 1s. 6d.

Sophocles: Philoctetes, Trachinae. By F. A. Paley, LL.D. 2s. 6d. each.

Thucydides. Book I. Edited by R. Shilleto. M.A. 6s. 6d.

Xenophon: Anabasis. Book I. By J. F. Macmichael, M.A. 1s. 6d.

Xenophon: Anabasis. Books II. and III. By J. F. Macmichael, M.A. 1s. 6d.

Xenophon: Anabasis. Books IV. and V. By J. F. Macmichael, M.A. 1s. 6d.

Xenophon: Cyropædia. Books I. and II. By G. M. Gorham, M.A. 1s. 6d

Xenophon: Hellenica. Book I. and Book II. By the Rev. L. D. Dowdall, M.A., B.D. 2s. each.

CAMBRIDGE GREEK AND LATIN TEXTS.

Aeschylus. By F. A. Paley, M.A., LL.D. 2s.

Cæsar: de Bello Gallico. By G. Long, M.A. 1s. 6d.

Cicero: de Senectute et de Amicitia, et Epistolæ Selectæ. By G. Long, M.A. 1s 6d.

Ciceronis Orationes. In Verrem. By G. Long, M.A. 2s. 6d.

Euripides. By F. A. Paley, M.A., LL.D. 3 vols. 2s. each.

Herodotus. By J. G. Blakesley, B.D. 2 vols. 5s.

Homeri Ilias. I.-XII. By F. A. Paley, M.A., LL.D. 1s. 6d.

Horatius. By A. J. Macleane, M.A. 1s. 6d.

Juvenal et Persius. By A. J. Macleane, M.A. 1s. 6d.

Lucretius. By H. A. J. Munro, M.A. 2s.

Sallusti Crispi Catilina et Jugurtha. By G. Long, M.A. 1s. 6d.

Sophocles. By F. A. Paley, M.A., LL.D. 2s. 6d.

Terenti Comœdiæ. By W. Wagner, Ph.D. 2s.

Thucydides. By J. G. Donaldson, D.D. 2 vols. 4s.

Virgilius. By J. Conington, M.A. 2s.

Xenophontis Expeditio Cyri. By J. F. Macmichael, B.A. 1s. 6d.

Novum Testamentum Græce. By F. H. Scrivener, M.A., D.C.L. 4s. 6d. An edition with wide margin for notes, half bound, 12s. EDITIO MAJOR, with additional Readings and References. 7s. 6d.

London: GEORGE BELL & SONS.

MESSRS BELL'S EDUCATIONAL WORKS.—*Continued.*

GREEK AND LATIN CLASS-BOOKS.

Passages for Translation into Latin Prose. Preceded by Essays on:—I. Political and Social Ideas. II. Range of Metaphorical Expression. III. Historical Development of Latin Prose Style in Antiquity. IV. Cautions as to Orthography. By H. Nettleship, M.A., Corpus Professor of Latin in the University of Oxford. 3s. A Key (for Masters only), 4s. 6d.

Latin Exercises, Grammar Exercises, and Hints for Junior Classes. By T. Collins, M.A. 2s. 6d.

"Unseen Papers" in Latin Prose and Verse, with Examination Questions. By T. Collins, M.A. 2s. 6d.

Easy Translations from Nepos, Caesar, Cicero, Livy, &c., for Retranslation into Latin. By T. Collins, M.A. 2s.

Extracts for Translation in Greek, Latin, and English. By R. C. Jebb, Litt. D., LL.D., H. Jackson. Litt. D., and W. E. Currey, M.A. 4s. 6d.

Latin Prose Composition, Materials for. By the late Rev. P. Frost, M.A. 2s. Key (for tutors only), 4s.

Latin Verse Book. By the late Rev. P. Frost, M.A, 2s. Key (for tutors only), 5s.

Rudiments of Attic Construction and Idiom. By Rev. W. C. Compton, M.A. 3s.

Greek Prose Composition, Materials for. By the late Rev. P. Frost, M.A. 2s. 6d. Key (for tutors only), 5s.

Greek Verse Composition. By the Rev. George Preston, M.A. 4s. 6d.

"Unseen Papers," in Greek Prose and Verse, with Examination Questions. By T. Collins, M.A. 3s.

Greek Verbs. A Catalogue of Verbs Irregular and Defective; their leading formations, tenses in use. By J. S. Baird, T.C.D. 2s 6d.

FRENCH AND GERMAN.

Lamartine.—Jeanne d'Arc. Edited with Notes and Full Vocabulary, by Professor A. Barrère, R.M.A., Woolwich. 1s., sewed: 1s. 6d., cloth.

Molière.—Le Médecin Malgre Lui, Les Précieuses Ridicules and Le Misanthrope. Edited, with Notes and Arguments, by F. E. A. Gasc. 6d. each.

Racine.—Athalie. Edited, with Notes and Arguments, by F. E. A. Gasc. 6d.

Scribe.—Le Verre d'Eau. With Notes and Introduction, by A. Barrère, Professor R.M.A., Woolwich. 6d., sewed; 9d., cloth.

Freytag.—Die Journalisten. Edited by Prof. F. Lange, Ph.D. 2s. 6d.

Schiller.—Maria Stuart. Edited by V. Kastner, B.-ès-L., Lecturer on French Language and Literature at the Owen's College, Victoria University, Manchester. 1s. 6d.

Goethe.—Hermann und Dorothea. Edited, with Notes, by E. Bell and E. Wölfel. 1s. 6d.

Concise Dictionary of the French and English Languages. 4th Edition. Thoroughly Revised, with new supplements (42 pages). By F. E. A. Gasc. 10s. 6d.

Pocket Dictionary of the French and English Languages. By F. E. A. Gasc. 45th Thousand, with Additions and Corrections. 2s. 6d.

German Prose Composition. By Dr C. A. Buchheim, Professor of German Language and Literature in King's College, and Examiner in German to the London University. 12th Edition, revised. 4s. 6d. (Key to 1st and 2nd Parts, 3s. To 3rd and 4th Parts, 4s.).

MATHEMATICS.

Arithmetic. With Examination Papers and nearly 8000 Examples. By C. Pendlebury, M.A., Senior Mathematical Master of St Paul's School. 5th Edition, stereotyped, with or without answers. Crown 8vo. 4s. 6d. In two parts, 2s. 6d. each.

The Examples in a separate Volume, price 3s.

In use at Winchester, Wellington, Marlborough, Charterhouse, St Paul's, Merchant Taylors', Christ's Hospital, Sherborne, Shrewsbury, &c., &c.

Examination Papers in Arithmetic, by the same Author, 2s. 6d. (Key for Tutors and Private Students only, 5s.).

London: GEORGE BELL & SONS.

MESSRS BELL'S EDUCATIONAL WORKS.—*Continued.*

MATHEMATICS—*continued*—

Algebra. Containing the four simple rules, Involution, Evolution, Common Measures, Common Multiples, Algebraic Fractions, Surds, Quadratic Equations, Binomial Theory, Permutations and Combinations, Logarithms, &c. By the Rev. C. Elsee, M.A., Mathematical Master at Rugby. 7th Edition. 4s.

Euclid, Books I.-VI., and part of Book XI. New Translation from the Greek Text, with numerous Riders and Chapters on Radical Axis, Poles and Polars, Tranversals, Centres of Similitude, Harmonic Proportion, Plain Loci, &c. By Horace Deighton, M.A., Head Master of Harrison College, Barbados. 2nd Edition, revised with symbols and abbreviations. Crown 8vo. 4s. 6d. Or in Parts: Book I., 1s.; Books I. and II., 1s. 6d.; Books I. to III., 2s. 6d.; Books III. and IV., 1s. 6d.

"A strong feature is the large number of exercises (1419 in all, besides worked-out examples) especially of an elementary character, in close proximity to the propositions upon which their solution depends."—*Nature.*

Analytical Geometry for Schools. By T. G. Vyvyan, Fellow of Gonville and Caius College, and Mathematical Master of Charterhouse. 5th Edition. 4s. 6d.

Trigonometry. Introduction to Plane. By the Rev. T. G. Vyvyan, M.A., formerly Fellow of Gonville and Caius College, and Mathematical Master of Charterhouse. 3rd Edition, revised and augmented. 3s. 6d.

Trigonometry, Examination Papers in. By G. H. Ward, M.A., Assistant Master at St Paul's School. Crown 8vo. 2s. 6d. Key, 5s.

Trigonometry, The Elements of. By J. M. Dyer, M.A., and Rev. R. H. Whiteombe, M.A., Assistant Masters at Eton College).

Conics, The Elementary Geometry of. By C. Taylor, D.D., Master of St John's College, Cambridge. 6th Edition. Containing a CHAPTER ON THE LINE INFINITY. 4s. 6d.

Conic Sections treated Geometrically. By W. H. Besant, Sc.D., late Fellow of St John's College. 8th Edition, revised. 4s. 6d.—SOLUTIONS TO EXAMPLES, 4s.

——— Enunciations and Figures separately. By W. H. Besant, M.A., Sc.D., F.R.S., 1s. 6d.

Geometrical Optics, An Elementary Treatise on. By W. Steadman Aldis, M.A., Professor of Mathematics at the University, Auckland, New Zealand. 3rd Edition. 4s

Astronomy. Main's Introduction to Plain Astronomy. By R. T. Main, M.A., Lecturer at St John's College, Cambridge. 5th Edition. 4s.

Solid Geometry, An Elementary Treatise on. By W. Steadman Aldis, M.A. 4th edition revised. Crown 8vo. 6s.

Hydrostatics, Elementary. By W. H. Besant, Sc.D., F.R.S. 14th Edition, revised and enlarged. 4s.—SOLUTIONS TO THE EXAMPLES *in the press.*

Hydromechanics, A Treatise on. By W. H. Besant, M.A., Sc.D. 5th Edition, revised and enlarged. Part I., Hydrostatics. 5s.

Elementary Dynamics, for the Use of Colleges and Schools. By William Garnett, M.A., Fellow of St John's College, Principal of the College of Physical Science, Newcastle-upon-Tyne. 5th Edition, revised. 6s.

Dynamics, A Treatise on. By W. H. Besant, Sc.D., F.R.S. 7s. 6d.

Rigid Dynamics, An Introductory Treatise on. By W. Steadman Aldis, M.A. 4s.

Heat, An Elementary Treatise on. By William Garnett, M.A., D.C.L., Principal at the College of Physical Science, Newcastle-on-Tyne. 5th Edition, revised and enlarged. 4s. 6d.

Physics, Examples in Elementary. Comprising Statics, Dynamics, Hydrostatics, Heat, Light, Chemistry, Electricity, with EXAMINATION PAPERS. By W. Gallatly, M.A., Assistant Examiner at the University of London. 4s.

Mathematical Examples. A Collection of Examples in Arithmetic Pure and Mixed Algebra, Trigonometry, Mensuration, Theory of Equations, Analytical Geometry, Statics, Dynamics, with Answers, &c. By J. M. Dyer, M.A. (Assistant Master, Eton, College), and R. Prowde Smith, M.A. (Assistant Master, Cheltenham College). 6s.

London: GEORGE BELL & SONS, York Street, Covent Garden.

Cambridge: DEIGHTON, BELL & CO.

STANDARD SCIENTIFIC WORKS.

A Dictionary of Applied Chemistry. By T. E. THORPE, B.Sc. (Vict). Ph.D., F.R.S., Treas., C.S., Professor of Chemistry in the Royal College of Science, London. Assisted by Eminent Contributors. 3 Vols. £2, 2s. each.

[*Vols. I. and II. now ready.*

Watts' Dictionary of Chemistry. Revised and entirely Re-written. By H. FORSTER MORLEY, M.A., D.Sc., Fellow of, and lately Assistant Professor of Chemistry in, University College, London; and M. M. PATTISON MUIR, M.A., F.R.S.E., Fellow, and Prælector in Chemistry, of Gonville and Caius College, Cambridge. Assisted by Eminent Contributors. To be published in 4 Vols. 8vo. 42s. each.

[*Vol. I. and II. ready. Vols. III. in preparation.*

Select Methods in Chemical Analysis, chiefly Inorganic. By WILLIAM CROOKES, F.R.S., &c. Re-written and greatly enlarged. With 37 Woodcuts. 8vo. 24s.

Elements of Chemistry, Theoretical and Practical. By W. ALLEN MILLER, M.D.

Part I. CHEMICAL PHYSICS. Sixth Edition. With 274 Woodcuts. 8vo, 16s.
Part II. INORGANIC CHEMISTRY. Sixth Edition. With 376 Woodcuts. 8vo, 24s.
Part III. THE CHEMISTRY OF CARBON COMPOUNDS. With 20 Woodcuts. Fifth Edition. 8vo, 31s. 6d.

Experimental Chemistry for Junior Students. By J. EMERSON REYNOLDS, M.D., F.R.S., Professor of Chemistry, University of Dublin; Examiner in Chemistry, University of London. Fcap. 8vo.

Part I. INTRODUCTORY. 1s. 6d.
Part II. NON-METALS. 2s. 6d.
Part III. METALS AND ALLIED BODIES. 3s 6d.
Part IV. CARBON COMPOUNDS. 4s.

Principles of General Organic Chemistry. By Prof. E. HJELT, of Helsingfors. Translated from the German by J. BISHOP TINGLE, Ph.D., Assistant in the Laboratory of the Heriot Watt College, Edinburgh. Crown 8vo. 6s. 6d.

A Manual of Practical Assaying. By JOHN MITCHELL, F.C.S. Sixth Edition. Revised, with the Recent Discoveries Incorporated, by W. CROOKES, F.R.S. With 201 Illustrations. 8vo. 31s. 6d.

Graphics; or, the Art of Calculation by Drawing Lines, Applied especially to Mechanical Engineering. By ROBERT H. SMITH, Professor of Engineering, Mason College, Birmingham. Part I. Arithmetic, Algebra, Trigonometry, Moments, Vector Addition, Locor Addition, Machine Kinematics, and Statics of Flat and Solid Structures. With Atlas of Plates, containing 97 Diagrams. 8vo. 15s.

LONDON: LONGMANS, GREEN & CO.

STANDARD SCIENTIFIC WORKS—*continued.*

Optional Projection: a Treatise on the Use of the Lantern in Exhibition and Scientific Demonstration. By LEWIS WRIGHT, Author of "Light: A Course of Experimental Optics." With 232 Illustrations. Crown 8vo. 6s.

The System of the Stars. By AGNES M. CLERKE, Author of "A History of Astronomy during the Nineteenth Century." With 6 Plates and 50 Woodcuts. 8vo. 21s.

Ganot's Elementary Treatise on Physics, Experimental and Applied. Translated and Edited from Ganot's "Eléments de Physique." By E. ATKINSON, Ph.D., F.C.S. Thirteenth Edition, Revised and Enlarged. With 9 Coloured Plates and 987 Woodcuts. Crown 8vo. 15s.

Ganot's Natural Philosophy for General Readers and Young PERSONS: a Course of Physics divested of Mathematical Formulæ, expressed in the language of daily life. Translated and Edited from Ganot's "Cours Elémentaire de Physique," by E. ATKINSON, Ph.D., F.C.S. Seventh Edition. With 37 pages of New matter, 7 Plates, 569 Woodcuts, and an Appendix of Questions. Crown 8vo. 7s. 6d.

Lessons in Elementary Mechanics. Designed for the Use of Schools, and of Candidates for the London Matriculation, and other Examinations. With 52 Examples and nearly 500 Exercises and Questions from the Matriculation Examination Papers of the London University, &c., up to June 1889. With Answers and 121 Woodcuts. By Sir PHILIP MAGNUS, B.Sc., B.A. Fcp. 8vo, 3s. 6d.

Elements of Dynamics (Kinetics and Statics). With numerous Exercises. A Text-book for Junior Students. By the Rev. J. L. ROBINSON, B.A., Chaplain and Naval Instructor at the Royal Naval College, Greenwich. Crown 8vo. 6s.

Principles of Mechanics. By T. M. GOODEVE, M.A. Professor of Mechanics at the Normal School of Science and the Royal School of Mines. New Edition, Re-written and Enlarged. With 253 Woodcuts and Numerous Examples. Crown 8vo. 6s.

TEXT-BOOKS OF SCIENCE. (*New Volume.*)

Preliminary Survey. By THEODORE GRAHAM GRIBBLE, Civil Engineer. Including Elementrry Astronomy, Route Surveying, Tacheometry. Curve-ranging, Graphic Mensuration, Estimates, Hydrography, and Instruments. With 130 Illustrations, Quantity Diagrams, and a Manual of the Slide-rule. Crown 8vo. 6s.

LONDON: LONGMANS, GREEN & CO.

STANDARD SCIENTIFIC WORKS—*continued.*

The Elements of Mechanism. By T. M. Goodeve, M.A. With 243 Woodcuts. New Edition, Revised and Enlarged. Crown 8vo. 6s.

An Introduction to Dynamics, including Kinematics, Kinetics, and Statics. With numerous Examples. By Charles V. Burton, D.Sc. With 150 Figures and numerous Exercises. Crown 8vo. 4s.

Electrical Engineering for Electric Light Artisans and Students (Embracing those Branches prescribed in the Syllabus issued by the City and Guilds Technical Institute). By W. Slingo, Principal of the Telegraphists' School of Science; and A. Brooker, Instructor on Electrical Engineering at the Telegraphists' School of Science. With 307 Illustrations. New Edition. Crown 8vo. 10s. 6d.

The Marine Steam Engine: A Treatise for the Use of Engineering Students and Officers of the Royal Navy. By Richard Sennett, R.N., formerly Engineer-in-Chief of the Royal Navy. With 261 Illustrations. 8vo. 21s.

Builder's Work and the Building Trades. By Colonel H. C. Seddon, R.E., Superintending Engineer, H.M.'s Dockyard, Portsmouth; Examiner in Building Construction, Science and Art Department, South Kensington; Assistant Examiner, H.M.'s Civil Service Commissioners. With numerous Illustrations. Medium 8vo. 16s.

WORKS BY JOHN TYNDALL, D.C.L. LL.D. F.R.S.

Lessons in Electricity at the Royal Institution, 1875-76. With 58 Woodcuts. Crown 8vo. 2s. 6d.

Notes of a Course of Seven Lectures on Electrical Phenomena and Theories, delivered at the Royal Institution. Crown 8vo. 1s. sewed: 1s. 6d. cloth.

Researches on Diamagnetism and Magne-Crystallic Action. With 8 Plates and numerous Illustrations. Crown 8vo. 12s.

Heat a Mode of Motion. Crown 8vo, 12s.

Sound. With 204 Woodcuts. Crown 8vo, 10s. 6d.

Lectures on Light, delivered in America in 1872 and 1873. With 57 Diagrams. Crown 8vo. 5s.

Notes of a Course of Nine Lectures on Light, delivered at the Royal Institution. Crown 8vo. 1s. sewed; 1s. 6d. cloth.

Essay on the Floating Matter of the Air in Relation to Putrefac-tion and Infection. With 24 Woodcuts. Crown 8vo. 7s. 6d.

Fragments of Science: a Series of Detached Essays, Addresses, and Reviews. 2 vols., crown 8vo. 16s.

BOOKS FOR STUDENTS.

Philosophy.

SCOTTISH PHILOSOPHY. A Comparison of the Scottish and German Answers to Hume. Balfour Philosophical Lectures. First Series. By Professor Seth, M.A., St Andrews. Second Edition. Crown 8vo. 5s.

HEGELIANISM AND PERSONALITY. Balfour Philosophical Lectures. Second Series. By the same Author. Crown 8vo. 5s.

KNOWING AND BEING. Essays in Philosophy. First Series. By John Veitch, LL.D. Professor of Logic and Rhetoric in the University of Glasgow. Crown 8vo. 5s.

PHILOSOPHICAL CLASSICS FOR ENGLISH READERS. Edited by Professor Knight, St Andrews. In Crown 8vo volumes. With Portraits. Price 3s. 6d. each

Recently published Volumes are—

LOCKE. By Professor Campbell Fraser.
BACON. Part I.—Life. Part II.—Philosophy. By Professor Nichol.
SPINOZA. By the Very Rev. Principal Caird.
Descartes. By Professor J. P. Mahaffy. **Butler.** By the Rev. W. Lucas Collins, M.A. **Berkeley.** By Professor A. Campbell Fraser. **Fichte.** By Professor Adamson, M.A. **Kant.** By Professor Wallace. **Hamilton.** By Professor Veitch. **Hegel.** By Professor Edward Caird. **Leibniz.** By John Theodore Merz. **Vico.** By Professor Flint, D.D. **Hobbes.** By Professor Croom Robertson. **Hume.** By the Editor.

Palæontology and Zoology.

An entirely New Edition, re-written and greatly enlarged.

A MANUAL OF PALÆONTOLOGY. With a General Introduction on the Principles of Palæontology. By Professor Allcyne Nicholson and Richard Lydekker, B.A., F.G.S., &c. Third Edition. 2 vols., 8vo, 63s.

A MANUAL OF ZOOLOGY. By Professor Nicholson. Seventh Edition, Re-written and greatly Enlarged. Post 8vo, with 555 Engravings. 18s.

TEXT-BOOK OF ZOOLOGY. By the same Author. Fourth Edition, Enlarged. Crown 8vo, with Engravings. 7s. 6d.

THE ANCIENT LIFE-HISTORY OF THE EARTH. By the same Author. With a Glossary and Index. Crown 8vo, with Engravings. 10s. 6d.

INTRODUCTION TO THE STUDY OF BIOLOGY. By the same Author. Crown 8vo, with numerous Engravings. 5s.

Physical Geography and Geology.

ADVANCED TEXT-BOOK OF PHYSICAL GEOGRAPHY. By Professors Page and Lapworth. With Engravings. Third Edition, Revised and Enlarged. 5s.

ADVANCED TEXT-BOOK OF GEOLOGY, Descriptive and Industrial. By Professor Page. With Engravings, and Glossary of Scientific Terms. Sixth Edition. Revised and Enlarged. Crown 8vo. 7s. 6d.

English Language and Literature.

The One Volume English Dictionary.

STORMONTH'S DICTIONARY OF THE ENGLISH LANGUAGE, embracing Scientific, and other Terms, numerous Familiar Expressions, and a Copious Selection of old English Words. The Pronunciation carefully revised by the Rev. P. H. Phelp, M.A. Cantab.
LIBRARY EDITION, Imperial 8vo, Handsomely bound in half Morocco. 31s. 6d.
COLLEGE EDITION, Crown 8vo, 7s. 6d.

MANUAL OF ENGLISH PROSE LITERATURE, Biographical and Critical. By Professor Minto. Third Edition, Revised. Crown 8vo. 7s. 6d.

CHARACTERISTICS OF ENGLISH POETS, FROM CHAUCER TO SHIRLEY. By the same Author. New Edition. Crown 8vo. 7s. 6d.

WILLIAM BLACKWOOD & SONS, EDINBURGH AND LONDON.

CHARLES GRIFFIN & COMPANY'S
STANDARD MEDICAL TEXT-BOOKS.

AITKEN, Sir W.—**THE SCIENCE AND PRACTICE OF MEDICINE.** With numerous Illustrations and Map. Seventh Edition. Two Vols., Royal 8vo. 42s.

—— **OUTLINES of the SCIENCE and PRACTICE of MEDICINE.** Second Edition. Crown 8vo. 12s. 6d.

ANDERSON, Professor T. M'CALL.—**SKIN DISEASES (A Practical Treatise on).** With 2 Chromo-Lithographs, Steel Plate, and numerous Illustrations. Medium 8vo. 25s.

BLYTH, A. W.—**FOODS: THEIR COMPOSITION AND ANALYSIS.** With Illustrations, Elaborate Tables, and Lithographic Plates. Third Edition. Revised and partly Rewritten. Crown 8vo. 16s.

—— **POISONS: THEIR EFFECTS AND DETECTION.** Illustrated. Second Edition Crown 8vo. 16s.

CAIRD, F. M., and C. W. CATHCART.—**A SURGICAL HANDBOOK FOR THE USE OF STUDENTS,** &c. Fourth Edition. Pocket size, Leather. 8s. 6d.

CROOM, Dr H.—**GYNÆCOLOGY (A Practical Treatise on).** Fully Illustrated. Large 8vo. [*In Preparation.*

DAVIS, Prof. J.—**BIOLOGY (A Text-Book of).** Including Animal and Vegetable Morphology and Physiology. With 158 Illustrations. Large Crown 8vo. 12s. 6d.

—— **THE FLOWERING PLANT: First Principles of Botany.** Large Crown 8vo. 3s. 6d.

—— AND SELENKA, Prof.—**A ZOOLOGICAL POCKET BOOK: SYNOPSIS OF ANIMAL CLASSIFICATION.** Interleaved. Small Post. 4s.

DUCKWORTH, Sir DYCE.—**GOUT (A Treatise on).** For the use of Practitioners and Students. With Chromo-Lithograph and Illustrations. Medium 8vo. 25s.

DUPRÉ, Professor, and H. WILSON HAKE.—**INORGANIC CHEMISTRY (A Short Manual of).** With Illustrations and a Coloured Plate of Spectra. Crown 8vo. 7s. 6d.

ELBORNE, W.—**PHARMACY AND MATERIA MEDICA. (A Laboratory Course of).** With numerous Illustrations. Crown 8vo. 8s. 6d.

GARROD, Dr.—**RHEUMATISM AND RHEUMATOID ARTHRITIS (A Treatise on).** With Plates and Illustrations. Medium 8vo. 21s.

HADDON, Professor A. C.—**EMBRYOLOGY (An Introduction to).** With 190 Illustrations. Medium 8vo. 18s.

HORSLEY, Professor VICTOR, F.R.S.—**BRAIN SURGERY (A Treatise on).** Fully illustrated. Large 8vo. [*In Preparation.*

JAKSCH, Professor von.—**CLINICAL DIAGNOSIS: A Text-Book of the Chemical,** Microscopical and Bacteriological Evidence of Disease. With numerous Illustrations, many in Colour. Medium 8vo. 25s.

LANDOIS and STIRLING, Professors.—**HUMAN PHYSIOLOGY (A Text-Book of).** Including Histology and Microscopical Anatomy. Fourth English Edition. With 845 Illustrations. (A number in Colours). 2 Vols., Large 8vo. [*Just Published.*

LEWIS, W. BEVAN.—**MENTAL DISEASES (A Text-Book of).** Having special Reference to the Pathological Aspects of Insanity. With Lithographic Plates and Illustrations. 28s.

MACALISTER, Professor ALEX.—**HUMAN ANATOMY (A Text-Book of).** With 816 Illustrations. Medium 8vo. 36s.

MEYER, Professor.—**DISEASES OF THE EYE (A Practical Treatise on).** Translated by A. F. FERGUS. With Plates and Illustrations. Medium 8vo. 25s.

OBERSTEINER, Professor, and Dr HILL.—**THE CENTRAL NERVOUS ORGANS** (Anatomy of) in Health and Disease. With 192 Illustrations. Medium 8vo. 25s.

PORTER'S **SURGEON'S POCKET BOOK.**—Fourth Edition, revised and enlarged by Brigade-Surgeon C. H. Y. GODWIN. With Illustrations and Folding-Plate. Pocket size, Leather. 8s. 6d. [*Just Published.*

SANSOM, Dr A. E.—**DISEASES OF THE HEART (The Diagnosis of).** Fully Illustrated. Large 8vo. [*In Preparation.*

STIRLING, Professor.—**PRACTICAL PHYSIOLOGY (Outlines of).** Including Experimental and Chemical Physiology. With 234 Illustrations. Second Rewritten Edition. Crown 8vo. 9s.

—— **PRACTICAL HISTOLOGY (Outlines of).** With 344 Illustrations. Crown 8vo. 12s. 6d.

THORBURN, Professor.—**DISEASES OF WOMEN (A Practical Treatise on).** With Chromo-Lithograph, and over 200 Illustrations. Large 8vo. 21s.

LONDON: CHARLES GRIFFIN & CO., EXETER STREET, STRAND.

Charles Griffin & Company's University Text-Books.

By Dr O. SCHRADER and F. B. JEVONS, M.A.

THE PREHISTORIC ANTIQUITIES OF THE ARYAN PEOPLES. Demy 8vo, 21s.

"It would be hard to find any book more to be recommended to the early student in Philology and Prehistoric Archæology."—*Classical Review.*

"Deserves richly the rank which has been so generally accorded to it, of a first-rate authority."—*Academy.*

HISTORIES OF LITERATURE.

In crown 8vo, cloth.

ENGLISH LITERATURE. By PROF. CRAIK. Tenth Edition. 7s. 6d.

GREEK LITERATURE. By F. B. JEVONS, M.A. Second Edition. 8s. 6d.

"Beyond all question, the BEST HISTORY of Greek Literature hitherto published."—*Spectator.*

ROMAN LITERATURE. By REV. C. T. CRUTTWELL, M.A. Fourth Edition. 8s. 6d.

"FULL of good scholarship and good criticism."—*Athenæum.*

SPECIMENS OF ROMAN LITERATURE. By MM. CRUTTWELL and BANTON. Second Edition. In one vol., 10s. 6d.; or in two Parts:—Part 1. Roman Thought, 6s. Part 2. Roman Style, 5s.

By Professors CALDERWOOD and FLEMING.

FLEMING'S VOCABULARY OF PHILOSOPHY. Revised and largely reconstructed by Henry Calderwood, LL.D., Prof. of Moral Philosophy in the University of Edinburgh Fourth Edition, crown 8vo, cloth, 10s. 6d.

By WILLIAM RAMSAY, M.A., late Prof. of Humanity in the University of Glasgow.

I. A MANUAL ON ROMAN ANTIQUITIES. Fourteenth Edition 8s. 6d.

II. AN ELEMENTARY MANUAL OF ROMAN ANTIQUITIES. Eighth Edition. 4s.

III. A MANUAL OF LATIN PROSODY. Seventh Edition. 5s.

By W. GALBRAITH MILLER, M.A.

THE PHILOSOPHY OF LAW, LECTURES ON. Designed mainly as an introduction to The Study of International Law. 8vo, cloth, 12s.

SCIENTIFIC TEXT-BOOKS.

ANGLIN, S., M.E.—**THE DESIGN OF STRUCTURES (A Practical Treatise on).** Numerous Diagrams, etc. 8vo. 16s. [*Just out.*

BROUGH, B. H., F.G.S.—**MINE SURVEYING (A Text-book of).** With numerous Diagrams. Third Edition. 8vo, 7s. 6d.

COLE, Prof. G., F.G.S.—**PRACTICAL GEOLOGY (Aids in).** With numerous Diagrams. 8vo. 10s. 6d. [*Just out.*

FIDLER, Prof. T. C.—**BRIDGE CONSTRUCTION (A Practical Treatise on).** With 17 Lithographic Plates and numerous Woodcuts. 8vo, 30s.

JAMIESON, Prof.—**STEAM AND STEAM ENGINES (A Text-Book on).** With 200 Illustrations and 4 Folding Plates. Sixth Edition. Crown 8vo, 7s. 6d.

McMILLAN, W. G.—**ELECTRO-METALLURGY (A Treatise on).** With numerous Illustrations. 8vo. 10s. 6d. [*Just out.*

PHILLIPS' **ELEMENTS OF METALLURGY.** New Edition, thoroughly revised and brought up to date by H. Bauerman, F.G.S. Royal 8vo, 36s.

ROBERTS-AUSTEN, Prof., C.B.—**METALLURGY (An Introduction to the Study of).** Illustrated. 8vo, 7s. 6d. [*Just out.*

ROBINSON, Prof. H., C.E.—**HYDRAULIC POWER AND HYDRAULIC MACHINERY.** With 43 Lithographic Plates and numerous Woodcuts. 8vo, 25s.

SEATON, A. E., C.E.—**MARINE ENGINEERING (A Manual of).** With numerous Illustrations. Ninth Edition. 8vo, 18s.

By WILLIAM JOHN MACQUORN RANKINE, LL.D., F.R.S.

I. A MANUAL OF APPLIED MECHANICS. Twelfth Edition. 12s. 6d.

II. A MANUAL OF CIVIL ENGINEERING. Seventeenth Edition. 16s.

III. A MANUAL OF MACHINERY AND MILL-WORK. Sixth Edition. 12s. 6d.

IV. A MANUAL OF THE STEAM ENGINE AND OTHER PRIME MOVERS. Thirteenth Edition. 12s. 6d.

V. USEFUL RULES AND TABLES, for Engineers, Architects, Builders, &c. Seventh Edition. 10s. 6d.

VI. A MECHANICAL TEXT-BOOK. Third Edition. 9s.

By J. MUNRO, C.E., and A. JAMIESON, M.Inst., C.E., F.R.S.E.

ELECTRICAL RULES AND TABLES (A POCKET-BOOK OF). Seventh Edition. 8s. 6d.

LONDON: CHARLES GRIFFIN & CO., EXETER STREET, STRAND.

Cambridge University Press.

BOOKS SUITABLE FOR THE EXAMINATIONS, &c., 1891-92.

Sophocles—the Plays and Fragments. With Critical Notes, Commentary, and Translation in English Prose. By R. C. JEBB, Litt.D., LL.D., Regius Professor of Greek in the University of Cambridge.

Part I. **Œdipus Tyrannus.** Second Edition. Demy 8vo. 12s. 6d. School Edition. 4s. 6d.
Part II. **Œdipus Coloneus.** Second Edition. Demy 8vo. 12s. 6d.
Part III. **Antigone.** Demy 8vo. Second Edition. 12s. 6d.
Part IV. **Philoctetes.** Demy 8vo. 12s. 6d.
Part V. **Trachiniæ.** [*In the Press.*

Demosthenes—Speech against the Law of Leptines. With Introduction, Critical and Explanatory Notes, and Autotype Facsimile from the Paris MS. Edited by J. E. SANDYS, Litt.D. Demy 8vo. 9s.

Homer.—Odyssey. Books IX. and X. With Introduction, Notes, and Appendices. By G. M. EDWARDS, M.A. 2s. 6d. each

Homer—Iliad. Book XXII. By the same Editor. 2s.

Vergil. Complete Works. 2 vols. By A. SIDGWICK, M.A. Vol. I., Text and Introduction. 3s. 6d. Vol. II., Notes. 4s. 6d.

Vergil—Aeneid. Books I.-XII. With Notes. By the same Editor. 1s. 6d. each.

The Growth of English Industry and Commerce During the Early AND MIDDLE AGES. By W. CUNNINGHAM, D.D., University Lecturer. Demy 8vo. 16s.

Lectures on Language and Linguistic Method in the School, delivered in the University of Cambridge. By S. S. LAURIE, M.A. LL.D., Professor of the Institutes and History of Education in the University of Edinburgh. Crown 8vo. 4s.

Comenius, John Amos, Bishop of the Moravians. His Life and Educational Works, by S. S. LAURIE, A.M. Second Edition, revised. 3s. 6d.

Locke on Education. With Introduction and Notes. By the late Rev. R. H. QUICK, M.A. 3s. 6d.

Voltaire—Histoire Du Siecle De Louis XIV. With Notes. Philological and Historical, Biographical and Geographical Indices, &c. By G. MASSON and G. W. PROTHERO. Part I., Chapters 1-13. 2s. 6d.

LONDON: C. J. CLAY & SONS,
CAMBRIDGE UNIVERSITY PRESS WAREHOUSE, AVE MARIA LANE.
GLASGOW: 263 ARGYLE STREET.

Cambridge University Press.

A Treatise on Analytical Statics. By E. J. Routh, Sc.D., F.R.S., Fellow of the University of London, Honorary Fellow of St Peter's College, Cambridge. Vol. I., Demy 8vo, 14s.

A Treatise on Plane Trigonometry. By E. W. Hobson, M.A., Fellow and Lecturer of Christ's College, Cambridge. Demy 8vo, 12s.

Theory of Differential Equations. Part I. Exact Equations and Pfaff's Problem. By A. R. Forsyth, M.A., F.R.S., Fellow of Trinity College, Cambridge. Demy 8vo, 12s.

A Treatise on Natural Philosophy. By Sir W. Thomson, LL.D., D.C.L., F.R.S., and P. G. Tait, M.A. Part I., demy 8vo, 16s. Part II., Demy 8vo, 18s.

Elements of Natural Philosophy. By Professors Sir W. Thomson and P. G. Tait. Demy 8vo, second edition, 9s.

A Treatise on Elementary Dynamics. By S. L. Loney, M.A. Crown 8vo, 7s. 6d.

A Treatise on Geometrical Optics. By R. S. Heath, M.A. Demy 8vo, 12s. 6d.

An Elementary Treatise on Geometrical Optics. By R. S. Heath, M.A. Crown 8vo, 5s.

A Treatise on the General Principles of Chemistry. By M. M. Pattison Muir, M.A. Demy 8vo, cloth, 15s.

Elementary Chemistry. By M. M. Pattison Muir, M.A., and Charles Slater, M.A., M.B. Crown 8vo, 4s. 6d.

Practical Chemistry. A Course of Laboratory Work. By M. M. Pattison Muir, M.A., and D. J. Carnegie, B.A. Crown 8vo, 3s.

Notes on Qualitative Analysis. Concise and Explanatory. By H. J. H. Fenton, M.A., F.I.C., F.C.S. New Edition, Crown 4to, 6s.

PITT PRESS MATHEMATICAL SERIES.

Euclid.—Elements of Geometry. Books I. and II. By H. M. Taylor, M.A., Fellow and formerly Tutor of Trinity College, Cambridge. 1s. 6d.

—— Books III., IV. By the Same Editor. 1s. 6d.

—— Books I.-IV., in one Volume. 3s.

Elementary Algebra. (With answers to the examples.) By W. W. Rouse Ball, M.A., Fellow and Mathematical Lecturer of Trinity College, Cambridge. 4s. 6d.

The Elements of Statics and Dynamics. By S. L. Loney, M.A., Fellow of Sidney Sussex College.

Part I. THE ELEMENTS OF STATICS. Extra fcap. 8vo, 4s. 6d.

Part II. THE ELEMENTS OF DYNAMICS. Extra fcap. 8vo, 3s. 6d., or, the two parts in one Volume 7s. 6d.

COMPLETE CATALOGUES ON APPLICATION.

London: C. J. CLAY & SONS,
CAMBRIDGE UNIVERSITY PRESS WAREHOUSE, AVE MARIA LANE.
GLASGOW: 263 ARGYLE STREET.

Blackie & Son's Books for Students

Deschanel's Natural Philosophy. An Elementary Treatise, by PROFESSOR A. PRIVAT DESCHANEL, of Paris. Translated and Edited by Professor J. D. EVERETT, D.C.L., F.R.S. Eleventh Edition, revised throughout. Illustrated with Engravings and Coloured Plates. Cloth, 18s.; also in 4 Parts, limp cloth, 4s. 6d. each.

Part I. Mechanics, Hydrostatics, &c. | *Part III.* Electricity and Magnetism.
Part II. Heat. | *Part IV.* Sound and Light.

"Systematically arranged, clearly written, and admirably illustrated, it forms a model work for a class in experimental physics."—*Saturday Review.*

Elementary Text-Book of Physics. By PROFESSOR EVERETT. Illustrated. Fifth Edition. Cloth, 3s. 6d.

"We have rarely seen the chief points of scientific interest so clearly explained as they are in this volume. We have no hesitation in recommending it."—*Nature.*

An Elementary Text-Book of Dynamics and Hydrostatics. By R. H. PINKERTON, B.A. Oxon., Assistant Lecturer on Mathematics at the University College of South Wales and Monmouthshire. Second Edition, revised and extended. Fcap. 8vo, cloth, 3s. 6d.

"From a mathematical point of view, the book leaves nothing to be desired."—*Nature.*

Algebraic Factors. HOW TO FIND THEM AND HOW TO USE THEM. *Enlarged Edition*, to which is added Factors in the Examination Room. By DR W. T. KNIGHT. Fcap. 8vo, cloth, 2s. Key, *Just Published*, 3s. 6d.

"This book will prove invaluable to young students."—*School Guardian.*

Elementary Text-Book of Trigonometry. By R. H. PINKERTON, B.A. Enlarged Edition. Fcap. 8vo, cloth, 2s.

"An excellent text-book. The exposition and demonstration of principles are remarkable for clearness and fulness."—*Athenæum.*

Mathematical Wrinkles FOR MATRICULATION AND OTHER EXAMS. Consisting of Six Sets of London Matriculation Papers in Mathematics, with full Solutions. By DR W. T. KNIGHT. Cloth, 2s. 6d.

"The work is thoroughly done: likely to be very serviceable to Students."—*Academy.*

An Introduction to the Differential and Integral Calculus. With examples of applications to Mechanical Problems. By W. J. MILLAR, C.E. *Second Edition.* Cloth, 1s. 6d.

"It is clearly written, and the examples are well chosen."—*Nature.*

An Elementary Text-Book of Physiology. By J. M'GREGOR-ROBERTSON, M.A., M.B., Senior Assistant in the Physiological Department, Glasgow University, &c. Illustrated. Fcap. 8vo, cloth, 4s.

"A good system of arrangement and clear expressive exposition distinguish this book. The definitions are remarkably lucid and exact."—*Saturday Review.*

A Text-Book of Organic Chemistry. By PROF. A. BERNTHSEN, Ph.D. With the Author's Additions up to date. Translated by GEORGE M'GOWAN, Ph.D., Demonstrator in Chemistry, University College of N. Wales, Bangor. Crown 8vo, cloth, 9s.

"A book in which it might be hard to detect any error."—*Chemical News.*

LONDON: BLACKIE & SON, LIMITED, EDINBURGH AND GLASGOW.

Blackie & Son's Books for Students

The Arithmetic of Magnetism and Electricity. By ROBERT GUNN, Science Lecturer, Glasgow School Board. Fcap. 8vo, cloth, 2s. 6d.

Magnetism and Electricity. By W. JEROME HARRISON, Joint-Author of "Earth-Knowledge," &c., and CHARLES A. WHITE. Fcap. 8vo, cloth, 2s.

Light, Heat, and Sound. By CHAS. H. DRAPER, D.Sc. Lond., Head Master of the Woolwich High School. Fcap. 8vo, 2s.

An Elementary Text-Book of Geology. By W. JEROME HARRISON, F.G.S. Copiously Illustrated. Fcap. 8vo, 2s.

An Elementary Text-Book of Applied Mechanics. By DAVID ALLAN LOW (Whitworth Scholar), M. INST. M.E., Head Master of the People's Palace Technical Schools, London. Illustrated. Cloth, 2s.

"Can be recommended, and will, no doubt, be well received by teachers and students alike."—*Nature.*

Elementary Inorganic Chemistry: THEORETICAL AND PRACTICAL. By PROFESSOR A. HUMBOLDT SEXTON, F.R.S.E., F.I.C., F.C.S. With many Illustrations. Fcap. 8vo, cloth, 2s. 6d.

"A good general introduction to the study of Chemistry."—*Scotsman.*

Elementary Botany. By JOSEPH W. OLIVER, Lecturer on Botany and Geology at the Birmingham Midland Institute. Fcap. 8vo, cloth, 2s.

Earth Knowledge. A TEXT-BOOK OF PHYSIOGRAPHY. By W. JEROME HARRISON, F.G.S., and H. ROWLAND WAKEFIELD. Illustrated. Part. I., Elementary. Fcap. 8vo, 1s. 6d. Part II., Advanced, 2s.

"There can be no doubt about the usefulness of the book . . . it is excellent."—*Nature.*

Commercial Geography: A Complete Manual of the Countries of the World. By PROFESSOR ZEHDEN. Translated by FINDLAY MUIRHEAD, M.A., from the Fifth German Edition. 592 pp., crown 8vo, cloth, 7s. 6d.

"This translation puts within the reach of English teachers one of the best text-books that ever was written. Its plan is admirably systematic."—*Scotsman.*

Outlines of the World's History. ANCIENT, MEDIÆVAL, and Modern, with special relation to the History of Civilisation and the Progress of Mankind. By EDGAR SANDERSON, M.A. With Illustrations and Eight Coloured Plates. 664 pp., crown 8vo, cloth, 6s. 6d.

Also separately :—Part I., ANCIENT ORIENTAL MONARCHIES, cloth, 1s. Part II., GREECE AND ROME, cloth, 2s. Part III., MEDIÆVAL HISTORY, cloth, 1s. Part IV., MODERN HISTORY, cloth, 2s. 6d.

Annandale's Concise English Dictionary. A Concise Dictionary of the English Language, Literary, Scientific, Etymological, and Pronouncing. Based on Ogilvie's Imperial Dictionary. By CHARLES ANNANDALE, M.A., LL.D. 816 pp., fcap. 4to, cloth, 10s. 6d. ; half-morocco, 15s.

"The 'Concise Dictionary' stands first—and by a long interval—among all the one-volume English Dictionaries hitherto published."—*The Academy.*

LONDON : BLACKIE & SON, LIMITED, EDINBURGH AND GLASGOW.

THE

RELIGIOUS TRACT SOCIETY'S LIST.

CHURCH HISTORY SERIES.

1. **PRELUDES TO THE REFORMATION:** From Dark to Dawn in Europe. By the Rev. Canon Pennington. Illustrated. Crown 8vo, 2s. 6d. Cloth boards.
2. **THE REFORMATION IN FRANCE.** From its Dawn to the Revocation of the Edict of Nantes. By Richard Heath. Illustrated. 2s. 6d. Cloth.
3. **THE REFORMATION IN FRANCE.** After the Revocation of the Edict of Nantes By Richard Heath. Illustrated. 2s. 6d.
4. **THE COUNCIL OF TRENT.** By T. Rhys Evans. 2s. 6d.
5. **ATHANASIUS: HIS LIFE AND LIFE WORK.** By Henry Robert Reynolds, D.D. With Portrait. 2s. 6d. Cloth Boards.
6. **THE ANCIENT BRITISH CHURCH.** By the late Rev. W. Lindsay Alexander, M.A., LL.D. 2s. 6d. Cloth Boards.
7. **THE ENGLISH REFORMATION OF THE SIXTEENTH CENTURY.** Illustrated by Maps, and by many Portraits. By the Rev. W. H. Beckett. 3s. 6d. Cloth.

THE CHRISTIAN CLASSICS SERIES.

1. **CUR DEUS HOMO.** Why did God become Man? By Anselm, Archbishop of Canterbury. Crown 8vo, 2s. Cloth Boards, Gilt Top.
2. **THE ENCHIRIDION ADDRESSED TO LAURENTIUS.** Being a Treatise on Faith, Hope, and Love. By Augustine, Bishop of Hippo. 2s. Cloth Boards, Gilt Top.
3. **DE INCARNATIONE VERBI DEI.** On the Incarnation of the Word. By Athanasius, Archbishop of Alexandria. 2s. Cloth Boards, Gilt Top.
4. **THE TREATISE OF ST BASIL THE GREAT ON THE HOLY SPIRIT.** By Rev. G. Lewis, M.A. 2s. Cloth.
5. **THE OBEDIENCE OF A CHRISTIAN MAN.** By William Tyndale, Translator and Martyr. Edited, with an Introduction, Analysis, and Notes, by Richard Lovett, M.A. 2s. 6d.
6. **THE WRITINGS OF PATRICK, THE APOSTLE OF IRELAND.** By the Rev. Charles H. H. Wright, D.D. 2s.

BY-PATHS OF BIBLE KNOWLEDGE.

1. **CLEOPATRA'S NEEDLE.** By the Rev. J. King. With Illustrations. 2s. 6d.
2. **FRESH LIGHT FROM THE ANCIENT MONUMENTS.** By A. H. Sayce, LL.D With Facsimiles from Photographs. 3s.
3. **RECENT DISCOVERIES ON THE TEMPLE HILL AT JERUSALEM.** By the Rev. J. King, M.A. With Maps, Plans, and Illustrations. 2s. 6d.
4. **BABYLONIAN LIFE AND HISTORY.** By E. A. Wallis Budge, M.A. Illustrated. 3s.
5. **GALILEE IN THE TIME OF CHRIST.** By Selah Merrill, D.D. With a Map. 2s. 6d.
6. **EGYPT AND SYRIA.** Their Physical Features in Relation to Bible History. By Sir J. W. Dawson. With many Illustrations. 3s.
7. **ASSYRIA: ITS PRINCES, PRIESTS, AND PEOPLE.** By A. H. Sayce, M.A., LL.D. Illustrated. 3s.
8. **THE DWELLERS ON THE NILE.** Chapters on the Life, Literature, History, and Customs of Ancient Egypt. By E. A. Wallis Budge, M.A. Illustrated. 3s.
9. **THE DISEASES OF THE BIBLE.** By Sir J. Risdon Bennett. 2s. 6d.
10. **THE TREES AND PLANTS MENTIONED IN THE BIBLE.** By W. H. Groser, B.Sc. Illustrated. 2s.
11. **ANIMALS OF THE BIBLE.** By H. Chichester Hart. Illustrated. Crown 8vo. 3s.
12. **THE HITTITES:** or, The Story of a Forgotten Empire. By A. H. Sayce, LL.D. Illustrated. Crown 8vo. 2s. 6d.
13. **THE TIMES OF ISAIAH,** as illustrated from Contemporary Monuments. By A. H. Sayce, LL.D. With a Map. Crown 8vo. 2s.

56 PATERNOSTER ROW, LONDON.

T. NELSON & SONS' PUBLICATIONS.

Systematic Theology. By the late Charles Hodge, D.D., Princeton. Three vols. royal 8vo, cloth. Price 42s. Index Vol., 3s. 6d. extra. (Also kept in Roxburgh binding, gilt top.)

The comprehensiveness and lucidity of this work make it an invaluable book of reference to every student of Biblical Theology.

The Church and its Polity. By the late Charles Hodge, D.D. A Companion Volume to the Author's 'Systematic Theology.' Royal 8vo. 12s. 6d.

Princeton Sermons. By the late Charles Hodge, D.D., Author of 'Systematic Theology.' Royal 8vo, cloth antique. Price 10s.

This remarkable work consists of outlines of two hundred and forty-nine sermons delivered at Princeton Theological Seminary on Sabbath afternoons.

Outlines of Theology. By the Rev. A. A. Hodge, D.D., Princeton. New Edition. Re-written and Enlarged. Royal 8vo. Price 10s.

The author's increased knowledge and experience as a teacher have been embodied in this new and enlarged edition.

Evangelical Theology. A Course of Popular Lectures on the Great Theological Questions of the Day. By A. A. Hodge, D.D., Princeton. Crown 8vo, 408 pages. Price 5s.

Library and Presentation Edition.

The Land and the Book. Biblical Illustrations drawn from the Manners and Customs, the Scenes and Scenery of the Holy Land. By William M. Thomson, D.D., forty-five years a Missionary in Syria and Palestine.

I. Southern Palestine and Jerusalem. With 140 Illustrations and Maps. Imp. 8vo. 592 pages. Cloth extra, richly gilt side, back, and edges. 21s.

II. Central Palestine and Phœnicia. With 130 Illustrations and Maps. Imp. 8vo. 714 pages. Cloth extra, richly gilt side, back, and edges. 21s.

III. Lebanon, Damascus, and Beyond Jordan. With 147 Illustrations and Maps. Imp. 8vo. 746 pages. Cloth extra, richly gilt side, back, and edges. 21s.

The *Complete Work* is comprised in *Three Volumes*, price Three Guineas, but each Volume is quite complete in itself, and is sold separately, price 21s. (Also to be had in sets, Roxburgh binding, gilt top, at a *special price*.)

The Original Edition of "The Land and the Book" is published in one volume, crown 8vo, cloth, price 7s. 6d.

A Manual of Bible History in Connection with the General History of the World. By the Rev. W. G. Blaikie, D.D. *New Edition, Revised and Enlarged.* Post 8vo. Price 3s. 6d.

Adam Smith's Wealth of Nations. With Introduction and Notes by J. S. Nicholson, Professor of Political Economy in the University of Edinburgh. Demy 8vo, cloth. Price 4s.

*** The notes have been revised, and a new note inserted on Bimetalism and the Silver Question.

THE HOWARD SHAKESPEARE.

Shakespeare's Dramatic Works, with Explanatory Notes, Parallel Passages, Historical and Critical Illustrations, Contemporary Allusions, a Copious Glossary, Biographical Sketch, and Indexes. By W. H. Davenport Adams. With Three Hundred and Seventy Illustrations by the late Frank Howard, R.A., and Facsimile of Shakespeare's Will. 2 vols. Crown 8vo, cloth, price 7s. per set; roxburgh, gilt top, price 9s. per set.

NEW HAND ATLASES OF THE WORLD.

Price 12*s.* 6*d. Large Imperial Quarto, full cloth gilt; or* 16*s. strongly bound in leather.*

The Popular Hand Atlas of the World. By John Bartholomew, F.R.G.S. With Descriptive Index. This Atlas contains Sixty full-page beautifully Coloured Maps, with all Recent Discoveries and Political Changes in the Continent of Africa and other parts of the World, and will be found invaluable for *reference and general use.*

Price 2*s.* 6*d., Large Imperial* 8*vo, cloth.*

The School Hand Atlas. A Series of Fifty-Four Maps, Illustrating Political, Physical, Commercial, Astronomical, and Classical Geography, along with over Sixty Sectional Maps of important Cities and Districts, and a General Index. By J. G. Bartholomew, F.R.G.S.

Lately Published.

The Royal Atlas and Gazetteer of Australasia. By J. G. Bartholomew, F.R.G.S. Imperial 8vo, Cloth. Containing Twenty-eight Maps, General Geographical Statistics, and Descriptive Gazetteer. Bound in cloth, extra. Price 12s. Also to be had bound in leather back, cloth sides.

T. NELSON & SONS, LONDON, EDINBURGH, AND NEW YORK.

COLLIN'S SCIENCE TEXT-BOOKS.

ELEMENTARY SERIES.

Dynamics: or Theoretical Mechanics. By J. T. Bottomley, F.R.S.E. Post 8vo, cloth, 142 pp., 1s. 6d.

Hydrostatics. By J. T. Bottomley, F.R.S.E. Post 8vo, cloth, 1s. 6d.

Applied Mechanics. By Henry Evers, LL.D. Post 8vo, cloth, 1s. 6d.

Magnetism and Electricity. By John Angell, Manchester. Post 8vo, cl., 1s. 6d.

Inorganic Chemistry. By Dr. W. B. Kemshead, F.R.A.S., F.G.S. Post 8vo, cl., 2s.

Inorganic Chemistry, 20 Lessons in. Embracing the Course required for the First Stage in the Science and Art Department. By W. G. Valentin, F.C.S. With Engravings in Wood. Post 8vo, cloth, 2s.

Practical Chemistry. By J. Howard, F.C.S. With an appendix on Chemical Analysis, 1s. 6d.

Animal Physiology. By John Angell, Science Master, Manchester. 252 pages, 92 Illust., post 8vo, cloth, 1s. 6d.

Biology (General). By Thomas C. MacGinlay, Donegal, 200 pages, post 8vo cloth, 1s. 6d.

Agriculture. By Professor Wrightson, School of Mines, South Kensington. Post 8vo, cloth, 2s. 6d.

Dynamics and Hydrostatics. By J. T. Bottomley, F.R.S.E. In one vol. 3s.

Sanitary Science. As applied to the Healthy Construction of Houses in Town and Country. By R. Scott Burn, C.E. Feap. 8vo, cloth, 1s. 6d.

Steam and the Steam Engine: Land and Marine. By Henry Evers, LL.D. New and Enlarged Edition. 1s. 6d.

ADVANCED SERIES.

Printed uniformly in post 8vo, fully illustrated, cloth lettered.

1. **Practical Plane Geometry and** Projection. New and Revised Edition. By H. Angell, Islington Science School, London. Vol. I., Text, 4s.; Vol. II., Plates, 6s.

1A. **Practical Plane Geometry.** By E. S. Burchett, Lecturer on Perspective and Geometrical Drawing at the National Art Training School, South Kensington. With 71 full-page Plates, engraved on copper. Royal 8vo, cloth lettered, 5s.

2. **Machine Construction.** By Edward Tomkins, and Edited by Henry Evers, LL.D. 2 vols. Plates, 4to, cloth, 7s.; Text, 3s. 6d.

4B. **Theoretical Naval Architecture.** A Treatise on the Calculations involved in Naval Design. By S. J. P. Thearle, 2 vols. Plates and Tables, 7s.; Text, 3s. 6d.

5. **Pure Mathematics.** By Edward Atkins, B.Sc. (Lond.), Leicester. 2 vols. Vol. 1, Arithmetic, Algebra, Geometry, and Plane Trigonometry. Vol. 2, Higher Parts of Algebra and Plane Trigonometry, together with Elementary Spherical Trigonometry: each, 2s. 6d.

8. **Acoustics, Light, and Heat.** By W. Lees, A.M., Edinburgh. 3s.

9. **Magnetism and Electricity.** By F. Guthrie, B.A. Ph.D., Royal School of Mines, London. 3s. 6d.

10. **Inorganic Chemistry.** By T. E. Thorpe, Ph.D., F.R.S.E., Professor of Chemistry, Leeds. New Edition, with copious Index and Examination Questions. Vol. I., Non-Metals, 3s.; Vol. II., Metals, 3s.

13. **Mineralogy.** General Principles of. By J. H. Collins, F.G.S. Illustrated with nearly 600 Woodcuts and Figures of Crystals, 3s. Vol. II., Descriptive Mineralogy, 3s

14. **Animal Physiology.** By J. Cleland, M.D., F.R.S., Professor of Anatomy, Glasgow University. 2s. 6d.

19. **Metallurgy.** By W. H. Greenwood, A.R.S.M. In 2 vols. Vol. I., Fuel, Iron, Steel, Tin, Antimony, Arsenic, Bismuth, and Platinum, 3s. 6d. Vol. II., Copper, Lead, Zinc, Mercury, Silver, Gold, Nickel, Cobalt, and Aluminium, 3s.

20. **Navigation** By Henry Evers, LL.D., Newcastle-on-Tyne. 2s. 6d.

22. **Steam and the Steam Engine:** Land, Marine, and Locomotive. By Henry Evers LL.D. New and Enlarged Edition, 3s.

23. **Physical Geography.** By J. Young, M.D., Professor of Natural History, Glasgow University, 2s. 6d.

24. **Hygiene: Its principles as applied to Public Health.** By E. F. Willoughby, M.B. Lond., with 30 Illustrations, 3s. 6d.

25. **Shipbuilding in Iron and Steel,** The Modern Practice of. By S. J. P. Thearle. Text, 5s.; Plates, 10s.

WM. COLLINS, SONS & CO., LTD. London, Glasgow, and Edinburgh.

AND ALL BOOKSELLERS.

WARD, LOCK & CO.'S PUBLICATIONS.

Complete Catalogue, comprising upwards of 3000 different Works, post free on application.

The *Times* says:—"'HAYDN'S DICTIONARY OF DATES' is the most universal Book of Reference in a moderate compass that we know of in the English language."

Nineteenth Edition. Containing **1068** *Pages,* **10,000** *Articles, and* **120,000** *Dates and Facts. Revised, Corrected, and Enlarged, with New and important Matter, and thoroughly brought down to the Autumn of* **1889.**

Medium 8vo, cloth, 18s.; half-calf, 24s.; full or tree calf, 31s. 6d.

Haydn's Dictionary of Dates and Universal Information. A Complete Record of all Nations and Times. Containing **the History of the World to the Autumn of 1889.** By BENJAMIN VINCENT, Hon. Librarian of the Royal Inst. of Great Britain, Cor. Mem. Hist. Soc., New York, &c.

The *Saturday Review* says:—"There are few books more often referred to in any literary workshop, and few more useful. It stands, in fact, without a rival. . . . We can only stand amazed at the care and industry with which recent events have chronicled."

The *Standard* says:—"The new edition is as exhaustive as it is up to date. . . . Fully maintains its value as a work of reference."

THE BEST WORK ON DOMESTIC MEDICINE.

Royal 8vo, cloth gilt, 10s. 6d.; half-calf, 16s.

Household Medicine. A Guide to Good Health, Long Life, and the Proper Treatment of all Diseases and Ailments. Edited by GEORGE BLACK, M.B. Edin., Author of "First Aid in Accident and Sudden Illness," &c. Accurately Illustrated with 450 Engravings.

"The work is worthy of study and attention, and likely to produce real good."—*Athenæum.*

THE BEST SELF-EDUCATOR PUBLISHED.

In 3 Vols. Royal 8vo, each 7s. 6d.; half-calf or half-morocco, 12s. each.

The Universal Instructor; or, Self-Culture for All. A Complete Cyclopædia of Learning and Self-Education, meeting the Requirements of all Classes of Students, and forming a Perfect System of Intellectual Culture. With 2000 Illustrations.

THE BOOK FOR WINTER EVENINGS.

New and Enlarged Edition, royal 8vo, 900 pp., cloth gilt, 7s. 6d.; half-calf, 12s.

Popular Scientific Recreations in Natural Philosophy, Astronomy, Geology, Chemistry, &c. Translated and Enlarged from "Les Récréations Scientifiques" of GASTON TISSANDIER. With about 1000 Illustrations.

"Science, with just a smack of legerdemain, forms the substance of this work. Its author illustrates the laws of nature by a variety of interesting experiments, capable of being performed for the most part with inexpensive appliances, yet of so telling a character as in many cases to verge on the marvellous. . . . The book may be recommended as a rich storehouse of entertainment and instruction."—*Athenæum.*

A NEW POPULAR ILLUSTRATED HISTORY OF ENGLAND.

Royal 8vo, cloth gilt, 10s. 6d.

A Popular History of England. From the Earliest Times to the Year 1887, the Jubilee of Queen Victoria I. Comprising also a Summary of the History of the Nations of Europe, arranged in Divisions, corresponding with the periods of English History. By H. W. DULCKEN, Ph.D. With Full Page Illustrations and Hundreds of Engravings in the Text.

"Marvellously cheap. . . . It is comprehensive in the fullest sense."—*Sheffield Telegraph.*

THE MOST COMPLETE AND USEFUL BOOK HITHERTO PRODUCED FOR AMATEURS IN CARPENTRY AND THE CONSTRUCTIVE ARTS.

Demy 8vo, cloth gilt, price 7s. 6d.; half-calf, 12s.

Every Man his own Mechanic: being a Complete Guide for Amateurs in Household Carpentry and Joinery, Ornamental and Constructional Carpentry and Joinery, and Household Building Art and Practice. By FRANCIS YOUNG. EIGHTH EDITION, Revised, Enlarged, and Corrected throughout by the Author. With 850 Wood Engravings, and three folding Supplements.

"There is a fund of solid information of every kind in the work before us, which entitles it to the proud distinction of being a complete 'vade-mecum' of the subjects upon which it treats."—*Daily Telegraph.*

LONDON: WARD, LOCK & CO., SALISBURY SQUARE, E.C.
NEW YORK: BOND STREET. MELBOURNE: ST JAMES STREET.

W. & A. K. JOHNSTON'S
PUBLICATIONS.

Price 42*s.*

ATLAS OF FEMALE PELVIC ANATOMY.
D. Berry Hart, M.D., &c.

Price 12*s.* 6*d.*

CONTRIBUTIONS TO THE SECTIONAL ANATOMY OF THE FEMALE PELVIS.
By the same Author.

Price 10*s.* 6*d.*

A PRACTICAL TREATISE ON THE SPUTUM.
G. Hunter Mackenzie. M.D.

Price 8*s.* 6*d.*

GOTTSTEIN'S DISEASES OF THE LARYNX.
Translated by P. M'Bride, M.D., &c.

Price 7*s.* 6*d.*

A GUIDE TO THE STUDY OF EAR DISEASES.
P. M'Bride, M.D., &c.

Price 15*s.*

STUDENT'S ATLAS OF BONES AND LIGAMENTS.
By C. W. Cathcart, M.B., &c., and F. M. Caird, M.B., &c.

Price 25*s.*

A POPULAR ATLAS OF HUMAN ANATOMY AND PHYSIOLOGY.
Professor Sir William Turner.

Atlases of Political, Classical, Physical, Scriptural, and Historical Geography, and Astronomy.

W. & A. K. JOHNSTON,
Edina Works, Easter Road, and 16 South St Andrew Street, Edinburgh.
5 WHITE HART STREET, WARWICK LANE, LONDON, E.C.

Complete Catalogue post free.

TO LAW STUDENTS.

Every Law Book in use, New or Second Hand.

					Cash Price.		
SCOTS LAW—							
Erskine's Principles,	£1	1	0	for	£0	16	0
Bell's Principles,	2	7	6	,,	1	16	6
Erskine's Institutes, 2 vols.,	4	10	0	,,	2	2	0
Rankine's Law of Land Ownership,	2	5	0	,,	1	17	6
Rankine's Law of Leases,	1	12	0	,,	1	6	8
Bell's Commentaries, 2 vols.,	5	5	0	,,	4	4	0
Bell's Law Dictionary, by Watson,	2	0	0	,,	1	10	0
CONVEYANCING—							
Bell's Lectures, 2 vols.,	3	3	0	,,	2	8	0
Craigie's Digest, Heritable Rights,	0	12	0	,,	0	9	0
Do. do., Moveable Rights,	0	12	0	,,	0	9	0
Henry's Conveyancing,	0	16	0	,,	0	12	0
Juridical Styles, Heritable Rights,		...				...	
Do. do., Forms of Process,		...			2	2	0
CIVIL LAW—							
Muirhead's Gaius,	1	1	0	,,	0	16	0
Muirhead's Roman Law,	1	1	0	,,	0	16	6
Sandars's Justinian,	0	18	0	,,	0	15	0
Moyle's Justinian, 2 vols.,	1	1	0	,,	0	17	6
Corpus Juris, 3 vols.,		...		,,	1	4	0
Mears' Institutes of Gaius and Justinian, Latin and English,	0	12	0	,,	0	6	0
PUBLIC LAW—							
Lorimer's Institutes of Law,	0	18	0	,,	0	15	0
Lorimer's Institutes of the Law of Nations, 2 vols.,	1	16	0	,,	1	10	0
Kent's International Law,	0	10	6	,,	0	8	9
Hall's International Law,	1	1	0	,,	0	17	6
CONSTITUTIONAL HISTORY—							
Stubb's Constitutional History, 3 vols.,	1	16	0	,,	1	10	0
Stubb's Select Charters,	0	8	6	,,	0	7	1
Hallam's Constitutional History, 3 vols.,	0	12	0	,,	0	9	0
May's do. do., 3 vols.,	0	18	0	,,	0	15	0
Langmead's Constitutional History,	1	1	0	,,	0	17	6
Annals of England,	0	12	0	,,	0	10	0
CIVIL PROCEDURE—							
Coldstream's Procedure in the Court of Session,	0	18	0	,,	0	13	6
Mackay's Practice in do., 2 vols.,	3	12	0	,,	3	0	0
Dove Wilson's Sheriff Court Practice in Civil Causes,	1	10	0	,,	1	2	6

JAMES THIN,

PUBLISHER TO THE UNIVERSITY,

54 and 55 SOUTH BRIDGE, 1 and 2 LINDSAY PLACE, EDINBURGH.

Books for Science Students.

Attfield's Chemistry: General, Medical, and Pharmaceutical; including the Chemistry of the British Pharmacopœia. Thirteenth Edition. Illustrated. 15s.

Frankland's Lecture Notes for Chemical Students. Seventh Thousand. Vol. I. (Inorganic), 4s. Third Edition. Vol. II. (Organic), 6s.

Church's Laboratory Guide for Students of Agricultural Chemistry. Sixth Edition. 6s. 6d.

Guthrie's Elements of Heat and of Non-Metallic Chemistry. 7s.

Greville Williams's Handbook of Chemical Manipulation. Illustrated, with Supplement. 15s.

Henfrey's Elementary Course of Botany: Structural, Physiological and Systematic. Fourth Edition. Edited by MAXWELL T. MASTERS, M.D., F.R.S., Illustrated by Six Hundred Woodcuts. 15s.

Babington's Manual of British Botany. Eighth Edition, corrected throughout. 10s. 6d.

Griffith's Elementary Text-Book of the Microscope. Coloured Plates. 7s. 6d.

The Micrographic Dictionary, by GRIFFITH and HENFREY. Fourth Edition. Revised by J. W. GRIFFITH, M.D.; Rev. M. J. BERKELEY, M.A., F.R.S.; and Professor T. RUPERT JONES, F.R.S. Figures of nearly 3,000 Microscopic Objects, £2, 12s. 6d.

Winkler's Handbook of Technical Gas Analysis. Containing Concise Instructions for carrying out Gas Analytical Methods of proved utility. Translated by Professor LUNGE. Fully Illustrated. 7s.

GURNEY & JACKSON,

(Successors to Mr VAN VOORST),

1 PATERNOSTER ROW.

DICTIONARIES published by CASSELL & Co.

THE ENCYCLOPÆDIC DICTIONARY. A New and Original Work of Reference to all the Words in the English Language, with a Full Account of their Origin, Meaning, Pronunciation, and Use. Complete in Fourteen Divisional Volumes, 10s. 6d. each; or in Seven Volumes, half-morocco, 21s. each; half-Russia, 25s. each.

The New Dictionary of the English Language. 1,100 *pp. demy* 8*vo, price* 7*s.* 6*d.*

CASSELL'S ENGLISH DICTIONARY. Giving definitions of more than 100,000 Words and Phrases.

*** *A Prospectus will be sent post free on application.*

THE DICTIONARY OF ENGLISH HISTORY. Edited by SIDNEY J. LOW, B.A., and F. S. PULLING, M.A.; assisted by eminent Contributors to the Work. Cheap Edition, 10s. 6d.; Roxburgh, 15s.

CASSELL'S FRENCH-ENGLISH AND ENGLISH-FRENCH DICTIONARY. 282nd Thousand. 3s. 6d.

"'Cassell's French Dictionary' is the cheapest, most complete, and only thoroughly accurate book of the kind in this country."—*Record.*

CHEAP EDITION. Price 3*s.* 6*d.*

CASSELL'S NEW GERMAN DICTIONARY. In Two Parts: German-English and English-German. By ELIZABETH WEIR. 1,120 pp., cloth.

"To say that this is the best of the smaller German Dictionaries in the field is faint praise, and were it not for the special merits of one or two, we might, without exaggeration, say that Miss Weir is first, and the rest nowhere."—*Journal of Education.*

CASSELL'S LATIN-ENGLISH DICTIONARY. 3s. 6d.

CELEBRITIES OF THE CENTURY. Edited by LLOYD C. SANDERS, with Contributions by Eminent Authorities. Cheap Edition. 10s. 6d.

DICTIONARIES OF PHRASE AND FABLE. By the Rev. Dr BREWER. Twenty-fourth Edition. Cloth, 3s. 6d.; or in superior binding, with leather back, 4s. 6d.

DICTIONARY OF ENGLISH LITERATURE. By W. DAVENPORT ADAMS. Cheap Edition, 7s. 6d.; Roxburgh, 10s. 6d.

THE PRACTICAL DICTIONARY OF MECHANICS. Containing about 20,000 drawings. Complete in four Volumes, cloth, 21s. each; or in half-morocco, 25s. each.

CASSELL'S BIBLE DICTIONARY. With nearly 600 Illustrations. Complete in One Vol. Cheap Edition. Cloth, 7s. 6d.; Roxburgh, 10s. 6d.

CASSELL'S CONCISE CYCLOPÆDIA. New and Cheap Edition. 7s. 6d.

CASSELL'S MINIATURE CYCLOPÆDIA. Containing 30,000 Subjects. Giving Information on about 200,000 Questions. Cloth, 3s. 6d.

CASSELL'S CLASSIFIED CATALOGUE, containing particulars of upwards of One Thousand Volumes, will be sent on request, post free, to any address.

Cassell & Company, Limited, Ludgate Hill, London.

Some Books for the Library.

LAMB'S COMPLETE WORKS, in Prose and Verse; with many Pieces hitherto unpublished, 2 Portraits, and Facsimile. Crown 8vo. cloth extra, 7s. 6d.

SHERIDAN'S COMPLETE WORKS. Including his Dramatic Writings, Prose and Poetry, Translations, Speeches, Puns, Sheridaniana, &c. With 10 Illustrations. Crown 8vo. cloth extra, 7s. 6d.

HOOD'S CHOICE WORKS, in Prose and Verse, including the Cream of the "Comic Annuals." With Portrait and 200 Illustrations. Crown 8vo. cloth extra, 7s. 6d.

THEODORE HOOK'S CHOICE HUMOROUS WORKS, including his Ludicrous Adventures, Bons Mots, Puns, and Hoaxes. With Portraits and Illustrations. Crown 8vo, cloth extra, 7s. 6d.

COLMAN'S HUMOROUS WORKS: "Broad Grins," "My Nightgown and Slippers," and other Humorous Works, Prose and Poetical. With Life and Frontispiece. Crown 8vo. cloth extra, 7s. 6d.

BURTON'S ANATOMY OF MELANCHOLY. Complete Edition, with Translations of the Classical Extracts. Demy 8vo, cloth extra, 7s. 6d.

CRUIKSHANK'S COMIC ALMANAC. Complete in Two Series: The First from 1835 to 1843; The Second from 1844 to 1853. A Gathering of the Best Humour of Thackeray, Hood, Mayhew, Albert Smith, A'Beckett, Robert Brough, &c. With 2000 Woodcuts and Steel Engravings by Cruikshank, Hine, Landells, &c. Crown 8vo, cloth extra, 2 thick vols., 7s. 6d. each.

WALTON & COTTON'S COMPLETE ANGLER. With Original Memoirs and Notes by Sir Harris Nicolas, and 61 Copperplate Illusts. Crown 8vo. cloth extra, 7s. 6d.

DR SYNTAX'S THREE TOURS: In Search of the Picturesque, of Consolation, and of a Wife. With Rowlandson's Coloured Illustrations, and Life by John Camden Hotten. Crown 8vo, cloth extra, 7s. 6d.

THACKERAYANA: Notes and Anecdotes. Illustrated by Hundreds of Sketches by William Makepeace Thackeray, and Coloured Frontispiece. Crown 8vo, cloth extra, 7s. 6d.

LANE'S ARABIAN NIGHTS ENTERTAINMENTS. Translated, with Notes, by Edward William Lane. With many hundred designs by Harvey. Edited by Edward Stanley Poole. With a Preface by Stanley Lane-Poole. 3 vols., demy 8vo, cloth extra, 7s. 6d. each.

GERMAN POPULAR STORIES. Collected by the Brothers Grimm, and Translated by Edgar Taylor. With an Introduction by John Ruskin, and 22 Illustrations on Steel by George Cruikshank. Square 8vo, cloth, 6s. 6d.; gilt edges, 7s. 6d.

TAINE'S HISTORY OF ENGLISH LITERATURE. Translated by Henry Van Laun. 4 vols., small 8vo, cloth boards, 30s. —POPULAR EDITION, 2 vols., crown 8vo, cloth extra, 15s.

THE LIFE OF GEORGE CRUIKSHANK. By Blanchard Jerrold. With 84 Illustrations and a Bibliography. Crown 8vo, cloth extra, 7s. 6d.

THE MACLISE PORTRAIT-GALLERY OF ILLUSTRIOUS LITERARY CHARACTERS. With Anecdotal Memoirs by William Bates, B.A., Maginn's Text, and 85 Portraits printed on an India Tint. Crown 8vo, cloth extra, 7s. 6d.

THE LIFE AND CORRESPONDENCE OF J.W. M. Turner. Founded upon Letters and Papers furnished by his Friends and Fellow-Academicians. By Walter Thornbury. With numerous Coloured Facsimiles from Turner's Drawings. Crown 8vo, cloth, 7s. 6d.

A HISTORY OF OUR OWN TIMES, from the Accession of Queen Victoria to the General Election of 1880. By Justin McCarthy, M.P.—LIBRARY EDITION, 4 vols., demy 8vo, cloth, 12s. each.—Also a POPULAR EDITION, 4 vols., crown 8vo, cloth, 6s. each. —And a JUBILEE EDITION, with an Appendix of Events to the End of 1886. 2 vols., 8vo, cloth extra, 7s. 6d. each.

A SHORT HISTORY OF OUR OWN TIMES. By Justin McCarthy, M.P. Crown 8vo, cloth extra, 6s.—POPULAR EDITION, post 8vo, cloth extra, 2s. 6d.

BRAND'S OBSERVATIONS ON POPULAR ANTIQUITIES. With Sir Henry Ellis's Additions and numerous Illustrations. Crown 8vo, cloth extra, 7s. 6d.

STRUTT'S SPORTS AND PASTIMES OF THE PEOPLE OF ENGLAND. Edited by William Hone. With 140 Illustrations. Crown 8vo, cloth extra, 7s. 6d.

THE HISTORY OF SIGNBOARDS. With Anecdotes of Famous Taverns and Remarkable Characters. By Jacob Larwood and John Camden Hotten. With 100 Illustrations. Crown 8vo, cloth extra, 7s. 6d.

A HANDBOOK OF ARCHITECTURAL STYLES. By A. Rosengarten. With 639 Illustrations. Crown 8vo, cloth extra, 7s. 6d.

THE LIFE OF THE GREEKS AND ROMANS, described from Antique Monuments. By Ernst Guhl and W. Koner. Translated and Edited by Dr F. Hueffer. With 545 Illusts. Cr. 8vo, cl. extra, 7s. 6d.

HAUNTED LONDON. By Walter Thornbury. Edited by Edward Walford, M.A. Illustrated by F. W. Fairholt, F.S.A. Crown 8vo, cloth extra, 7s. 6d.

THE LAWS AND PRACTICE OF CHESS: together with an Analysis of the Openings. By Howard Staunton. Edited by Robert B. Wormald. Crown 8vo, cloth extra, 5s.

THE PURSUIVANT OF ARMS: Heraldry Founded upon Facts. By J. R. Planché. With Coloured Frontispiece and 200 Illustrations. Crown 8vo, cloth extra, 7s. 6d.

A HANDBOOK OF HERALDRY; with Instructions for Tracing Pedigrees and Deciphering Ancient MSS., &c. By John E. Cussans. With 400 Woodcuts and Coloured Plates. Crown 8vo, cloth extra, 7s. 6d.

LONDON: CHATTO & WINDUS, PICCADILLY, W.

Cheap and Handsome Library Edition of the best English Authors.

NIMMO'S LIBRARY EDITION OF STANDARD WORKS.

In large demy 8vo, with Steel Portrait and Vignette, handsomely bound, roxburghe style, gilt top, price 5s. each.

1. **Shakespeare's Complete Works.** With a Biographical Sketch by Mary Cowden Clarke, a Copious Glossary, and numerous illustrations.
2. **Burns' Complete Works.** Containing also his Remarks on Scottish Songs, General Correspondence, Letters to Clarinda, and Correspondence with George Thomson.
3. **Goldsmith's Miscellaneous Works.** Including the "Vicar of Wakefield," "Citizen of the World," "Polite Learning," Poems, Plays, Essays, &c., &c.
4. **Lord Byron's Poetical Works.** With Life.
5. **Josephus: The Whole Works of Flavius Josephus.**
6. **The Arabian Nights Entertainments.** Translated from the Arabic. An Entirely New and Complete Edition.
7. **The Works of Jonathan Swift, D.D.** Carefully selected.
8. **The Works of Daniel Defoe.** Carefully selected from the most Authentic Sources.
9. **The Works of Tobias Smollet.** Carefully selected from the most Authentic Sources.
10. **The Canterbury Tales and Fairie Queen:** with other Poems of Chaucer and Spencer.
11. **The Works of the British Dramatists.** Carefully selected from the Original Editions. Including the best Plays of Ben Jonson, Christopher Marlowe, Beaumont and Fletcher, Philip Massinger, &c., &c. With Copious Notes, Biographies, and a Historical Introduction.
12. **The Scottish Minstrel:** the Songs and Song Writers of Scotland subsequent to Burns. With Biographies, &c., &c. By the Rev. Charles Rogers, LL.D.
13. **Moore: The Poetical Works of Thomas Moore.**
14. **Fielding: The Writings of Henry Fielding.** Comprising his Works of Fiction. With Life, &c.
15. **Sterne: The Works of Laurence Sterne.** Complete Edition.
16. **Boswell's Johnson: The Life of Samuel Johnson, LL.D.** By James Boswell. New and Complete Edition.
17. **Cowper's Complete Works.** With Life by Grimshawe.
18. **Cicero's Life and Letters.** The Life by Dr Middleton.
19. **Xenophon's Works: The Complete Works of Xenophon.** Translated into English by Ashley, Spelman, Smith, Fielding, and others. A New Edition, with Portrait, &c.
20. **The Works of Samuel Johnson, LL.D.** With Essay on his Life and Genius by Arthur Murphy, with Portraits.
21. **The English Essayists: A Comprehensive Selection from the** Works of the great Essayists from Lord Bacon to John Ruskin. With Portraits, Biographical Notices, &c.
22. **The Tatler and The Guardian.** Complete in One Volume. With Portrait of Sir Richard Steel, Notes, &c.
23. **The Treasury of British Eloquence.** Specimens of brilliant Orations by the most Eminent Statesmen, Divines, &c., of Great Britain, of the last Four Centuries. With Biographical Notices, Critical Notes, &c.
24. **The Treasury of Modern Biography.** A Gallery of Literary Sketches of Eminent Men and Women of the Nineteenth Century. With Notes, Index, &c.
25. **Reliques of Ancient English Poetry:** Consisting of Old Heroic Ballads, Songs, and other Pieces of our earlier Poets, together with some few of later date, and a copious Glossary. By Thomas Percy, D.D., Bishop of Dromore.
26. **The Treasury of English Literature.** Specimens from the Writings of the Best Authors, from Chaucer to the present time. With Portraits.
27. **The British Letter Writers:** A Collection of the Best Letters from the Fifteenth Century to the present time.
28. **Longfellow: His Poetical and Prose Works.** Including "Outre Mer," "Hyperion," "Kavanagh," &c. With Life and numerous notes, literary and biographical.

W. P. NIMMO, HAY & MITCHELL, EDINBURGH.

THE STORY OF THE NATIONS.

Large Crown 8vo, fancy cloth, gold lettered, 5s.

The Volumes are furnished with Maps, Illustrations, and Index.

A List of Volumes and Authors.

1. **ROME.** By Arthur Gilman, M.A.
2. **THE JEWS.** By Prof. J. K. Hosmer.
3. **GERMANY.** By Rev. S. Baring-Gould.
4. **CARTHAGE.** By Prof. Alfred J. Church.
5. **ALEXANDER'S EMPIRE.** By J. P. Mahaffy.
6. **THE MOORS IN SPAIN.** By Stanley Lane-Poole.
7. **ANCIENT EGYPT.** By Prof. George Rawlinson.
8. **HUNGARY.** By Prof. Arminius Vambéry.
9. **THE SARACENS.** By Arthur Gilman, M.A.
10. **IRELAND.** By Hon. Emily Lawless.
11. **CHALDEA.** By Zénaïde A. Ragozin.
12. **THE GOTHS.** By Henry Bradley.
13. **ASSYRIA.** By Zénaïde A. Ragozin.
14. **TURKEY.** By Stanley Lane-Poole.
15. **HOLLAND.** By Prof. J. E. Thorold Rogers.

SOME OPINIONS OF THE PRESS.

"That useful series."—*The Times.*

"An admirable series."—*Spectator.*

"That excellent series."—*Guardian.*

"The series is likely to be found indispensable in every school library."—*Pall Mall Gazette.*

"The popular 'Story of the Nations' series."—*Daily Chronicle.*

"That excellent series."—*Daily News.*

"There is, perhaps, no surer sign of the increased interest that is now being taken in historical matters than the favourable reception which, we believe, both here and in America, is being accorded to the various volumes of 'The Story of the Nations' as they issue in quick succession from the press. More than one volume has reached its third edition in England alone. . . . Each volume is written by one of the foremost English authorities on the subject with which it deals. . . . It is almost impossible to over-estimate the value of a series of carefully prepared volumes, such as are the majority of those comprising this library. . . . The illustrations make one of the most attractive features of the series."—*Guardian.*

A List of Volumes and Authors.

16. **MEDIÆVAL FRANCE.** By Gustave Masson.
17. **PERSIA.** By S. G. W. Benjamin.
18. **PHŒNICIA.** By Prof. Geo. Rawlinson.
19. **MEDIA.** By Zénaïde A. Ragozin.
20. **THE HANSA TOWNS.** By Helen Zimmern.
21. **EARLY BRITAIN.** By Prof. A. J. Church.
22. **THE BARBARY CORSAIRS.** By Stanley Lane-Poole.
23. **RUSSIA.** By W. R. Morfill.
24. **THE JEWS UNDER ROMAN RULE.** By W. D. Morrison.
25. **SCOTLAND.** By John Mackintosh.
26. **SWITZERLAND.** By Lina Hug and R. Stead.
27. **MEXICO.** By Susan Hale.
28. **PORTUGAL.** By H. Morse Stephens.

New Volume.

29. **THE NORMANS.** By Sarah Orne Jewett.

Other Volumes are in Preparation.

LONDON: T. FISHER UNWIN, PATERNOSTER SQUARE, E.C.

From Mr Walter Scott's List.

Crown 8vo, Cloth. Price 3s. 6d. per Vol.; Half Mor., 6s. 6d.

THE

CONTEMPORARY SCIENCE SERIES.

EDITED BY HAVELOCK ELLIS.

Illustrated Volumes containing between 300 and 400 pp.

THE CONTEMPORARY SCIENCE SERIES will bring within general reach of the English speaking public the best that is known and thought in all departments of modern scientific research. The influence of the scientific spirit is now rapidly spreading in every field of human activity. Social progress, it is felt, must be guided and accompanied by accurate knowledge,—knowledge which is, in many departments, not yet open to the English reader. In the Contemporary Science Series all the questions of modern life—the various social and politico-economical problems of to-day, the most recent researches in the knowledge of man, the past and present experiences of the race, and the nature of its environment—will be frankly investigated and clearly presented.

First Volumes of the Series:—

THE EVOLUTION OF SEX. By Prof. PATRICK GEDDES and J. ARTHUR THOMSON.
ELECTRICITY IN MODERN LIFE. By G. W. DE TUNZELMANN.
THE ORIGIN OF THE ARYANS. By Dr ISAAC TAYLOR.
PHYSIOGNOMY AND EXPRESSION. By P. MANTEGAZZA.
EVOLUTION AND DISEASE. By J. B. SUTTON.
THE VILLAGE COMMUNITY. By G. L. GOMME.
THE CRIMINAL. By HAVELOCK ELLIS.
SANITY AND INSANITY. By Dr C. MERCIER.
HYPNOTISM. By Dr ALBERT MOLL (Berlin).
MANUAL TRAINING. By Dr WOODWARD (St Louis, Mo.).
THE SCIENCE OF FAIRY TALES. By E. S. HARTLAND.
PRIMITIVE FOLK. By ELIE RECLUS.
THE EVOLUTION OF MARRIAGE. By Prof. CH. LETOURNEAU.
BACTERIA AND THEIR PRODUCTS. By Dr SIMS WOODHEAD.
EDUCATION AND HEREDITY. By GUYAU.

The following Writers, among others, are preparing Volumes for this Series:—

Prof. E. D. Cope, Prof. G. F. Fitzgerald, Prof. J. Geikie, E. C. K. Gonner, Prof. J. Jastrow (Wisconsin), Prof. C. H. Hertford, Prof. Lombroso, Prof. James Mavor, Prof. Karl Pearson, etc., etc.

LONDON: WALTER SCOTT, 24 WARWICK LANE, PATERNOSTER ROW.

BOOKS FOR M.A. PASS EXAMINATION.

A.—CLASSICS.

	Cash Prices
Horace, Odes, Books I. and II., by Page,	£0 2 6
,, Satires, by Palmer,	0 4 6
Virgil's Aeneid, Books IV., V., VI., and VII., by Sidgwick,	0 5 0
Cicero de Oratore, Book I., by Wilkins,	0 5 8
Tacitus, Annals, Book IV., by Furneaux,	0 3 10
Homer, Odyssey, Books I. to XII., by Merry,	0 3 10
,, Iliad, Books XIII. to XXIV., by Monro,	0 4 6
Sophocles, Aedipus Tyrannus, by Jebb,	0 3 6
Demosthenes, Leptines, by King,	0 2 0
,, ,, by Sandys,	0 7 6
Plato, Republic, Books I. and II., by Wells,	0 4 2
Arnold's Latin Prose Composition, by Bradley,	0 3 10
Roman History, Merivale and Puller,	0 2 8
Roman Literature, Cruttwell,	0 6 6
Roman Literature Primer, Wilkins,	0 0 10
Sidgwick's Greek Prose Composition,	0 3 10
King and Cookson's Greek and Latin Philology,	0 4 6
Greek History, Cox,	0 5 8
Greek History, Oman,	0 3 9
Cox's Persian Wars,	0 2 0
Greek Literature, Jevons,	0 6 8
Jebb's Introduction to Homer,	0 2 6
Butcher and Lang's Homer's Odyssey,	0 4 6

B.—PHILOSOPHY.

Fraser's Selections from Berkeley, *Fourth Edition*,	0 6 6
,, Berkeley, *Philosophical Classics*,	0 2 8
,, Locke, *Philosophical Classics*,	0 2 8
Calderwood's Hand-Book of Moral Philosophy,	0 4 6
Davidson's Logic of Definition,	0 5 0
Butler's Sermons,	0 2 0
Sidgwick's History of Ethics,	0 2 8
Morris's Historical Outline of English Accidence,	0 4 6
Morley's History of English Literature,	0 5 8
Hallam's Literature of Europe,	0 3 9
Shakespeare, Love's Labour's Lost, *with notes*,	0 0 10
,, Coriolanus, *with notes*,	0 2 0
Milton, Paradise Lost, Books I. and II., *with notes*,	0 3 4
De Quincey, Essay on Rhetoric, by Masson,	0 2 8
Leslie Stephen's Dean Swift,	0 0 9
Wordsworth's Poems, with Prose Prefaces, &c.,	0 2 8

C.—MATHEMATICS.

Brook Smith's Arithmetic,	0 3 6
Chrystal's Algebra, Part, I.,	0 8 0
,, ,, Part II.,	0 9 6
Todhunter's Trigonometry,	0 3 10
Smith's Conic Sections,	0 5 8
,, Solid Geometry,	0 6 6
Wilson's Plane Geometry,	0 3 5
,, Solid Geometry and Conic Sections,	0 2 8
Macdonald's Higher Geometry,	0 2 8
Blaikie's Dynamics,	0 2 8
Balfour Stewart's Physics,	0 3 5
Herschell's Astronomy,	0 2 8

JAMES THIN,
PUBLISHER TO THE UNIVERSITY,
54 and 55 SOUTH BRIDGE, 1 and 2 LINDSAY PLACE.

BOOKS FOR M.A. HONOURS EXAMINATION.

A.—CLASSICS.

	Cash Prices.
Plautus Pseudolus,	0 1 8
,, Rudens, by Sonnenschein,	0 7 0
Terence Phormio, by Sloman,	0 2 6
Horace, Odes, by Page,	0 4 6
,, Satires, by Palmer,	0 4 6
,, Epistles, by Wilkins,	0 4 6
Juvenal, by Mayor, 2 vols.,	0 16 0
Martial, Sellar and Ramsay's Selections,	0 2 8
Cicero's Epistles,	0 3 0
,, ,, by Tyrrell, 3 vols., each,	0 10 0
,, ,, translated by Jeans,	0 8 6
Tacitus, Annals, by Furneaux,	0 13 6
Homer, Odyssey, Books I.-XII., by Merry,	0 3 10
Sophocles, Aedipus Coloneus, by Jebb,	0 9 6
,, Antigone, by Jebb,	0 9 6
Theocritus, by Snow,	0 3 9
Thucydides, Books VII. and VIII.,	0 1 3
,, Book VII., by Frost,	0 2 8
Plato, Phaedrus, by Thompson,	0 4 0
Aristotle's Poetics, *Vahlen's Edition*, by Moore,	0 1 3
Mommsen's History of Rome,	0 5 8
Cruttwell's Roman Literature,	0 6 6
Cox's History of Greece,	0 5 8
Jevon's Greek Literature,	0 6 6
Sellar's Roman Poets of the Republic,	0 7 6
,, Virgil,	0 6 9
King and Cookson's Philology, Greek and Latin,	0 4 6
,, ,, Sounds and Inflexions, in Greek and Latin,	0 15 0
Monro's Homeric Grammar,	0 8 9

B.—PHILOSOPHY.

Berkeley's Life and Works, by Prof. Fraser, 4 vols.,	2 8 0
,, Selections, by Prof. Fraser, *Fourth Edition*,	0 6 6
,, Philosophical Classics, by Prof. Fraser,	0 2 8
Plato's Theaetetus, by Campbell,	0 8 0
Aristotle's Metaphysics, Book I.,	0 4 0
Descartes, Meditations,	0 5 0
Locke's Essay,	0 2 8
Locke, Philosophical Classics,	0 2 8
Hegel, ,, ,,	0 2 8
Kant's Critique of Pure Reason,	0 3 9
Hume's Enquiry Concerning Human Understanding,	0 2 8
Schwegler's History of Philosophy,	0 4 6
Plato's Protagoras, Bohn's Translation,	0 3 9
,, Republic, by Davies and Vaughan,	0 3 6
Grant's Aristotle, Ethics, 2 vols.,	1 6 6
Spinoza's Ethics, 2 vols.,	0 7 6
Hegel's Philosophy of the State,	0 5 0
Seth's Hegelianism,	0 3 9
Reid's Works, by Hamilton, 2 vols.,	1 1 0
Kant's Metaphysics of Ethics,	0 4 6
Sidgwick's Methods of Ethics,	0 11 6
Green's Prolegomena of Ethics,	0 9 6

C.—MATHEMATICS.

Chrystal's Algebra, Part I.,	0 8 0
,, ,, Part II.,	0 9 6
Burnside and Panton's Equations,	0 10 6
Williamson's Differential and Integral Calculus, each,	0 8 9
Taylor's Modern Geometry of Conic Sections,	0 12 6
Thomson's Determinants,	0 4 2

JAMES THIN, Publisher to the University.
54 and 55 SOUTH BRIDGE, 1 and 2 LINDSAY PLACE.

MORRIS'S POPULAR WORKS ON NATURAL HISTORY.

Third Edition, newly revised, corrected, and enlarged by the Author.

A History of British Birds.

In Six Volumes, super-royal 8vo, cloth, with three hundred and ninety-four plates, coloured by hand. Price £6, 6s. Now £4, 10s. net.

NOTE.—In announcing a New Edition of this well-known Work, the Publisher would say that it has been thoroughly Revised by the Author, who has made several thousand additions, corrections, alterations, etc., besides adding no fewer than twenty-nine new species, new that is, to Britain, and of which new blocks have been engraved. The hand-colouring of the Plates to this New Edition will be found equal, if not superior, to the First Edition of the Work. The Index has been revised and considerably enlarged, and will be found a most important addition to the value of the Work.

Sixth Edition, with 72 Plates, coloured by hand. Super-royal 8vo, cloth, 21s. Now 10s. 6d. net.

A History of British Butterflies.

NOTE.—"With coloured illustrations of all the species, and separate figures of the male and female, where there is any obvious difference between them, and also of the under side, together with the Caterpillar and Chrysalis; and a full description of each, with copious accounts of their several habits, localities, and times of appearance, together with details as to their preservation, &c., with new and valuable information—the result of the author's experience for many years."

Third Edition, with 132 Plates, nearly 2000 distinct Specimens, all coloured by hand. 4 vols., royal 8vo, £6, 6s. Now £3, 3s. net.

A Natural History of British Moths.

Accurately delineating every known species, with the English as well as the scientific names, accompanied by full descriptions, date of appearance, list of the localities they haunt, their food in the caterpillar state, and other features of their habits and modes of existence, &c.

LONDON: JOHN C. NIMMO,
14 KING WILLIAM STREET, STRAND, E.C.

MESSRS MACNIVEN & WALLACE, Publishers, EDINBURGH.

Crown 8vo. 3s. 6d.

Revelation and the Bible. A Popular Exposition for the Times. By Rev. W. D. THOMSON, M.A., author of "The Christian Miracles, and the Conclusions of Science."

"It serves its purpose well, setting forth the position of the question, defending the Bible against the hostile criticism that is often levelled at it nowadays, and showing how it is not necessary to insist upon verbal inspiration in order to maintain the character of the Bible as an inspired writing."—*Scotsman.*

"It is precisely the book which was needed at present to dissipate groundless alarm, and to convince men that Revelation is independent of criticism. It is a sane, reverent, and frank exposition and defence of the Bible as an adequate record of God's revelation. . . . No book could be more timely and none could more adequately serve its purpose. We should like to see it disseminated by the thousand. It will bring light to many, and can give offence to none."—Dr MARCUS DODS, in *British Weekly.*

Demy 8vo. 1s.

The Origin of Scripture. On its Divine and Human Sides. A Contribution to the Present Biblical Discussion. By JOHN WILSON, M.A., Author of "Ænigma Vitæ," &c., &c.

Crown 8vo. 3s.

Present-Day Lessons from Habakkuk. In Ten Lectures. By the Rev. PETER BARCLAY, M.A.

"The excellence of Mr Barclay's volume consists in his honest interpretation of the prophet, and in his earnest and exact applications of the prophet's burden to the blemishes and vices of modern society. Mr Barclay's volume is full of strong food, but this strong food is seasoned by abundant and apt illustrations from nature, from poetry, and very especially from history, in which the author appears to be well read. Such preaching cannot fail to do good, and we thank Mr Barclay for a book of a good kind and good of it kind."—*British Weekly.*

Demy 8vo. 6d.

Some Considerations on Miracle. By ANDREW HARPER, M.A., Lecturer in Hebrew, Presbyterian Church of Victoria, with prefatory letters by Principal RAINY, D.D., and MARCUS DODS, D.D.

MARCUS DODS, D.D.

What is a Christian? A Sermon preached in St Giles' Cathedral, September 29th, 1889. Seventeenth Thousand. Cheap Edition, 3d. *Reduced Price for Quantities.*

Recent Progress in Theology. Inaugural Lecture, New College, Edinburgh, November 6th, 1889. Second Edition, Demy 8vo, 1s.

A Manual of Devotion from the Writings of St Augustine. 16mo, cloth, 2s. 6d.

Old Wells Re-Opened: A Manual of Devotion from Forgotten Sources. 16mo, cloth, 2s. 6d.

Christ's Sacrifice and Ours. Crown 8vo, 3d.

Presbyterianism Older than Christianity. Crown 8vo, 4d.

MACNIVEN & WALLACE, EDINBURGH.

PUBLISHED BY W. & R. CHAMBERS.

Chambers's Encyclopædia. A Dictionary of Universal Knowledge, with Maps and Wood Engravings. In ten vols., Imperial 8vo. Entirely New Edition. Vols I., II., III., IV., V., VI., and VII. are now Ready. Price 10s. each, cloth ; 15s. each, half morocco. The work is also being issued in monthly parts, price 1s. each.

"The leading literary, political, scientific, and artistic subjects have been entrusted to specially qualified writers, whose articles are, as a rule, entirely new. It is already evident that the new edition of 'Chambers's Encyclopædia' will reflect the highest credit on its editor and its publishers."—*Spectator.*

"Many distinguished names will be found among the list of contributors, and the articles throughout are models of conciseness, while embracing the latest facts."—*Daily Chronicle.*

"The best men in all departments are contributors, while the aid of specialists has been largely enlisted to make the articles complete synopses of the latest knowledge."—*Sheffield Independent.*

Book of Days. A Repertory of Popular Antiquities, Folklore, Curious Fugitive and Inedited Pieces, Oddities of Human Life and Character. Elaborately Illustrated with Engravings. Two vols., cloth, £1, 1s. ; half-calf, £1, 10s.

Cyclopædia of English Literature. Being a History, Critical and Biographical, of British Authors from the Earliest to the Present Times, with Specimens of their Writings. Illustrated with Portraits. Two vols., cloth, 20s. ; half-calf, 27s.

Etymological Dictionary of the English Language. For Schools and Colleges, containing Etymology, Pronunciation, and Meanings, also many obsolete and rare words. In one vol., crown 8vo. 608 pages, cloth 3s. 6d.

Chemistry, Inorganic. By the late Professor WILSON, revised and enlarged by H. G. MADAN, M.A., Eton College. 540 pages, 4s.

The Elements of Euclid, Books I. to VI., and parts of Books XI. XII. With numerous Deductions, Appendices, and Historical Notes, by J. S. MACKAY, M.A., LL.D., Mathematical Master in the Edinburgh Academy. 412 pages. 392 diagrams, 3s. 6d.

Also separately, Book I., cloth, 1s. ; Book II., cloth, 6d. ; Book III., cloth, 9d. ; Books XI. XII., cloth, 6d.

Key to Mackay's Euclid. By J. S. MACKAY, M.A., LL.D. Price 3s. 6d.

Mechanics, Elementary, including Hydrostatics and Pneumatics. By OLIVER J. LODGE, D.Sc. Lond. *Revised Edition.* 208 pages, price 3s.

The book aims at giving a clear knowledge of the principles of the subject, in as popular a manner as is consistent with careful accuracy.

Mathematical Tables. By JAMES PRYDE, F.E.I.S. *New Edition.* These comprehend the most important Tables required in Trigonometry, Mensuration, Land-Surveying, Navigation, Nautical Astronomy, &c. The tables of Logarithms (1 to 108000), Logarithmic Sines, &c., are carried to *seven decimal places.* 496 pages, 4s. 6d.

W. & R. CHAMBERS, LIMITED,
339 HIGH ST., EDINBURGH; and 47 PATERNOSTER ROW, LONDON.

T. & T. CLARK'S PUBLICATIONS.

DIVINITY AND PHILOSOPHY, &c.

GRIMM'S LEXICON: Greek-English Lexicon of the New Testament, being Grimm's Wilke's Clavis Novi Testamenti. Translated, Revised, and Enlarged by Joseph Henry Thayer, D.D. In Demy 4to, 36s.

CREMER'S LEXICON: Biblio-Theological Lexicon of New Testament Greek. By Hermann Cremer, D.D. Translated from the German of Wm. Urwick, M.A. Demy 4to. Third Edition, with Supplement, price 38s.

WINER'S GRAMMAR OF NEW TESTAMENT GREEK. Third Edition. By Professor W. F. Moulton, D.D. One Large Vol. 8vo, 15s.

AN INTRODUCTORY HEBREW GRAMMAR, with Progressive Exercises in Reading and Writing. By Professor A. B. Davidson, D.D. Ninth Edition. 8vo, 7s. 6d.

SYNTAX OF THE HEBREW LANGUAGE OF THE OLD TESTAMENT. By Professor Heinrich Ewald. Translated from Eighth Edition. 8vo, 8s. 6d.

PÜNJER (BERNHARD). HISTORY OF THE CHRISTIAN PHILOSOPHY OF RELIGION, from the Reformation to Kant. Translated from the German by W. Hastie, B.D. With Preface by Professor Flint, D.D. 8vo, 16s.

LICHTENBERGER'S HISTORY OF GERMAN THEOLOGY IN THE NINETEENTH CENTURY. Translated and Edited by W. Hastie, B.D. 8vo (670 pp.). 14s.

SCHAFF.—HISTORY OF THE CHRISTIAN CHURCH, A.D. 1-1073. New Edition, Re-written and Enlarged. By Philip Schaff, D.D., LL.D. Ten Vols. ex. 8vo, £5. 5s.

JANET.—FINAL CAUSES. Second Edition. 8vo, 12s. **THE THEORY OF MORALS.** 8vo, 10s. 6d. By Paul Janet, Member of the Institute, Paris.

KANT'S METAPHYSIC OF ETHICS. Edited by Professor Henry Calderwood, LL.D. Fourth Edition, Crown 8vo, 6s.

LOTZE'S MICROCOSMUS (Concerning Man and His Relation to the World). Fourth Edition, 2 vols. 8vo, 36s.

ELEMENTS OF LOGIC AS A SCIENCE OF PROPOSITIONS. By E. E. C. Jones (*Translator of Lotze's "Microcosmus"*).

GODET'S COMMENTARIES.—Luke, 2 Vols., 21s. **John,** 3 Vols., 31s. 6d. **Romans,** 2 Vols., 21s. **1st Corinthians,** 2 Vols., 21s.

MEYER'S COMMENTARY ON THE NEW TESTAMENT. 20 Vols. 8vo, £5, 5s. nett (*any 8 vols.*, £2, 2s.).

BENGEL'S GNOMON OF THE NEW TESTAMENT. Translated and Edited by A. R. Fausset, M.A. Three Large Vols., 24s. nett.

LAW CLASSES.

LAW EXAMINATION MANUAL FOR STUDENTS, containing Conveyancing, Scots Law, and Court Practice, in the form of Tables and Abstracts; the Latin Maxims in Bell's and Erskine's Principles, and numerous Examples of the Examination Questions. Compiled by William Whyte, S.S.C. Demy 8vo, 5s.

BELL'S PRINCIPLES OF THE LAW OF SCOTLAND. Ninth Edition, Revised and Enlarged by W. Guthrie, LL.D. 2 vols. 8vo, 47s. 6d.

PROCEDURE IN THE COURT OF SESSION. By John P. Coldstream, W.S. Fourth Edition, 8vo, 18s.

MANUAL OF PUBLIC HEALTH AND SANITARY SCIENCE. By T. G. Nasmyth, M.D., etc. 8vo, 7s. 6d.

DICKSON ON THE LAW OF EVIDENCE IN SCOTLAND. New Edition. By P. J. H Grierson, B.A., Advocate. 2 Vols. royal 8vo, 42s.

THE LAW OF BANKRUPTCY IN SCOTLAND. By Prof. Henry Goudy, LL.B., Advocate. (*A New Edition in Preparation*).

THE INSTITUTES OF GAIUS AND RULES OF ULPIAN. By Professor James Muirhead. 8vo, 21s.

SAVIGNY'S PRIVATE INTERNATIONAL LAW. Translated, *with Notes*, by W. Guthrie, LL.D. Second Edition, 8vo, 21s.

THE PHILOSOPHY OF LAW. An Exposition of the Fundamental Principles of Jurisprudence as the Science of Right. By Immanuel Kant. Translated by W. Hastie, B.D. Crown 8vo, 5s.

OUTLINES OF THE SCIENCE OF JURISPRUDENCE. An Introduction to the Systematic Study of Law. Translated and Edited from the Juristic Encyclopædias of Puchta, Friedländer, Falck, and Ahrens. By W. Hastie, B.D. Crown 8vo, 6s.

EDINBURGH: T. & T. CLARK, 38 GEORGE STREET.

JAMES THIN'S PUBLICATIONS.

PROFESSOR S. S. LAURIE.

Primary Instruction in Relation to Education. By Simon S. Laurie, A.M., F.R.S.E., Instit. Educ., Prof. Univ. Edin. Fourth Edition enlarged, crown 8vo, cloth, 4s.

Hand-Book to Lectures on the Theory, History, and Art of Education. By Simon S. Laurie, A.M., F.R.S.E. Third Edition revised. 8vo, cloth, 2s.

PROFESSOR KIRKPATRICK.

University of Bologna. An Account of the Octo-Centenary Festival, June 1888. By Professor Kirkpatrick, University of Edinburgh. Crown 8vo, cloth, 3s. 6d.

PROFESSOR GEIKIE.

Heine's Songs and Lyrics. Translated by James Geikie, Professor of Geology, University of Edinburgh. Post 8vo, cloth, 6s.

Hamilton, Sir William.—The Works of Thomas Reid, D.D. Active and Moral Powers; Inquiry into the Human Mind, &c. With Notes and Supplementary Dissertations by Sir William Hamilton, Bart. 2 vols. 8vo, Eighth Edition, £1, 10s.

The Student's Manual of Scientific Terms. Pronouncing, Etymological, and Explanatory. Chiefly comprising terms in *Botany, Chemistry, Natural History, Medicine, and Veterinary Science.* By the Rev. James Stormonth, author of the Etymological English Dictionary. Crown 8vo, pp. 480. Second Edition. Price 7s. 6d.

Cunningham, Principal John.—The Church History of Scotland, from the commencement of the Christian Era to the present time. By John Cunningham, D.D., Principal of St Mary's College, St Andrews. Second Edition. 2 vols. pt. 8vo, 16s.

Sinclair, John.—Scenes and Stories of the North of Scotland. With coloured and other Illustrations. Square 8vo, 6s.

Macdonald, W. J., F.R.S.E.—Higher Geometry. Containing an Introduction to Modern Geometry and Elementary Geometrical Conics. By W. J. Macdonald, M.A., F.R.S.E., Mathematical Master, Daniel Stewart's College, Edinburgh, and Examiner in Mathematics in the University of St Andrews. 12mo, cloth, 3s. 6d.

Blaikie, James, M.A.—Elements of Dynamics, Mechanics. With Numerous Examples and Examination Questions. By James Blaikie, M.A., Fellow of Gonville and Caius College, Cambridge, formerly Examiner in Mathematics in the University of Edinburgh. Twenty-second Thousand, revised and enlarged. Post 8vo, cloth, 3s. 6d.

From the late Professor Balfour Stewart, Owens College.

"Both Professor Core and myself think it is one of the best treatises on the subject which we have met with."

Edgar, John, M.A.—The Homeric Hymns. Translated with Introductory Essay by John Edgar, B.A. (Oxon.), M.A. (Glasgow). Classical Master in the Royal High School, Edinburgh. Post 8vo, cloth, 3s. 6d.

—— **Aeschines Ctesiphontem.—The Orations of Aeschines against Ctesiphon.** Translated with Introduction. Post 8vo, cloth, 3s. 6d.

Stobo, James, M.A.—The Biographies of Cornelius Nepos. Edited, with a Complete Vocabulary, by James Stobo, M.A. Edin. 12mo, cloth. 2s. 6d.

Melvin, James, LL.D., Late Rector of the Grammar School, Aberdeen.—Latin Exercises, as Dictated by Dr Melvin, to which are prefixed Dissertations on a Variety of Latin Idioms and Construction. By the Rev. Peter Calder, A.M. 8vo, cloth, Twelfth Edition, 3s. 6d.

—— **Key to the Above**: Being a Translation of the Exercises, with Latin Idioms and Construction. By the Rev. Peter Calder, A.M. Third Edition. Revised by the Rev. James Pirie, M.A., B.D. 8vo, cloth, 5s. Supplied to Teachers only.

"We recommend most warmly Dr Melvin's Latin Exercies, and hail them as a most satisfactory evidence of the good, sound, scholarly education which is being earnestly but unobtrusively carried on."—*Schoolmaster.*

"As a help to tuition, the work deserves to be known and used. Classical Teachers and Tutors may gather from them materials for useful instruction, and for furnishing a variety of lessons in Elementary Latin Composition."—*Literary Gazette.*

Woolford, Edward, LL.D.—An Epitome of Part of Cæsar's Commentaries. With a Vocabulary and Map of Cæsar's Gaul. Thirteenth Edition, 12mo, cloth, 1s. 6d.

Thom, George, LL.D.—Outlines of Elementary Physiography. With Illustrations and Questions from the Science Examination Papers, South Kensington. Second Edition, enlarged. By George Thom, LL.D., Principal of Dollar Institution. Plates, 12mo, cloth, 1s. 6d.

"The book has two distinctive merits—it is singularly lucid in style, and it presents the conclusions of the highest living authorities."—*Scotsman.*

Clark, Thomas A.—Workshop Notes and Sketches for Handicraft Classes. Being a First Year's Course of Woodworking. By Thomas A. Clark, Superintendent of Workshops and Technical Drawing Master, George Heriot's Hospital School, Edinburgh. 12mo, cloth, 1s.

Thomson, William, M.A.—An Introduction to Determinants. With numerous examples for the use of Schools and Colleges. By William Thomson, M.A., Professor of Mathematics, Stellenbosch, Cape of Good Hope, and late Examiner in Mathematics, Edinburgh University. 8vo, cloth, price 5s.

Moir, James, M.A.—Continuous Latin Prose. Exercises. By James Moir, M.A., Rector of the Grammar School, Aberdeen. Third Edition, revised. Post 8vo, 3s. 6d.

This Book is intended to furnish material for continuous Latin Prose Composition. It seeks to supply two classes of Exercises not given as yet, at least with any fulness, in any single book—viz., first, Passages adapted to illustrate the peculiarities of Latin construction, idiom, and style; and secondly, Extracts from English authors. . . .

In the Second Part, Extracts are given from English authors, and these are graduated, being taken first from writers who, from their style or subject, afford comparatively easy material, and secondly, from a wider range of literature.

"Quite the best exercise-book of the kind that we have seen. The ambiguities of English are well contrasted with the comparative preciseness of Latin in the able introduction. The section on period structure is particularly clear and business-like. The volume ought to be largely used on both sides of the Tweed."—*Athenæum.*

"Amoug the many Latin exercise-books and elementary manuals which have reached us, we are inclined to single ont Mr Moir's 'Continuous Latin Prose' as, on the whole, the best. Its plan reminds us, to some extent, of Mr Sidgwick's well-known 'Greek Prose Composition.'"—*Academy.*

"Mr Moir's 'Continuous Latin Prose' is an emphatically practical book, embodying not only sound scholarship, but the fruits of observation of an experienced teacher as to the kind of exercises which are best adapted to give to boys facility in the idiomatic use of the Latin Language."—*Scotsman.*

The First Edition was used in Edinburgh University; Harrow; Edinburgh Academy, George Watson's College, Edinburgh; Glasgow Academy; Glasgow E.C. TrainingCollege; Aberdeen Grammar School; Ayr Academy, &c.

EDINBURGH: JAMES THIN, PUBLISHER TO THE UNIVERSITY.
LONDON: SIMPKIN, MARSHALL & CO.

Chapman & Hall's Publications.

BY E. AVELING.

MECHANICS AND EXPERIMENTAL SCIENCE.

By E. Aveling, D.Sc., Fellow of University College, London.
As required for the Matriculation Examination of the University of London.
Crown 8vo, 6s. each.

MECHANICS.
Key. 3s. 6d.
CHEMISTRY.
Key. 3s. 6d.
LIGHT AND HEAT
MAGNETISM AND ELECTRICITY.
KEY TO MAGNETISM AND ELECTRICITY, AND LIGHT AND HEAT. In 1 Vol. 5s.

BY A. R GOWER.

PRACTICAL METALLURGY.

By A. R. Gower, Royal School of Mines. With Illnstratious. Crown, 3s.

BY JOHN DOUGLAS.

SKETCH OF THE FIRST PRINCIPLES OF PHYSIOGRAPHY.

By John Donglas. With numerous Illustrations. Crown 8vo, 6s.

BY O. SEEMAN.

THE MYTHOLOGY OF GREECE AND ROME.

With Special Reference to its Use in Art. From the German of O. Seeman.
Edited by G. H. Bianchi. 64 Illustrations. New Edition. Crown 8vo, 5s.

BY J. MILLS.

ADVANCED PHYSIOGRAPHY.

By J. Mills. Crown 8vo, 4s. 6d.

PROPESSOR OLIVER.

ILLUSTRATIO NS OF THE VEGETABLE KINGDOM.

By Professor Oliver. 109 Plates. Oblong 8vo. Plain, 16s.; Coloured, £1, 6s.

BY J. MILLS AND B. NORTH.

HAND-BOOK OF QUANTITATIVE ANALYSIS.

By J. Mills and B. North. Crown 8vo, 3s. 6d.

BY PROFESSOR JOHN WRIGHTSON.

PRINCIPLES OF AGRICULTURAL PRACTICE

As an Instructional Subject.
Professor John Wrightson, M.R.A.C., F.C.S., &c. With Geological Map. Second Edition.
Crown 8vo, 5s.

BY THE SAME AUTHOR.

FALLOW AND FODDER CROPS.

Crown 8vo, 5s.

T. H. S. ESCOTT.

ENGLAND.

Its People, Polity, and Pursuits. By T. H. S. Escott.
Fifth Thousand. Demy 8vo, 8s.

SAMUEL LAING'S WORKS.

PROBLEMS OF THE FUTURE, AND ESSAYS.

Sixth Thousand. Demy 8vo, 3s. 6d.

MODERN SCIENCE AND MODERN THOUGHT.

Tenth Thousand. Demy 8vo, 3s. 6d.

A MODERN ZOROASTRIAN.

Fourth Thousand. Demy 8vo, 3s. 6d.

LONDON: CHAPMAN & HALL, LIMITED.

SAMPSON LOW, MARSTON & CO.'S PUBLICATIONS.

NEW WORK BY PROFESSOR WALLACE.

The Rural Economy and Agriculture of Australia and New Zealand,

as seen by ROBERT WALLACE, F.L.S., F.R.S.Edin., Professor of Agriculture and Rural Economy in the University of Edinburgh; Author of 'India in 1887,' 'Farm Live Stock of Great Britain,' &c. With 10 Maps, 80 full-page Plates, and 20 Text Illustrations. Demy 8vo, cloth, 21s.

The book specially deals with the relation of the Agriculture of Australia to the Home Market. Chapters are devoted to wool, wine, frozen meat, the cattle of Australia, the diseases of sheep, colonial horses, forage crops, and land reclamation. On all of these points, as well as on the economic problems of the colony, Professor Wallace writes sensibly and with adequate knowledge from personal investigations on the spot.

FRENCH GRAMMARS, by Monsieur F. JULIEN,

French Master of King Edward the Sixth's Grammar School, Birmingham.

French at Home and at School. Containing the Accidence, the most indispensable Rules of Syntax, Useful Sentences for Conversation, the Regular and Irregular Verbs, and French-English and English-French Vocabularies. Square crown 8vo, cloth, price 2s.

Phrases of Daily Use and Practice. Forming a Supplement to 'Petites Leçons.' Square crown 8vo, limp cloth, 6d.

Petites Leçons de Conversation et de Grammaire. Little Lessons on the most Useful Topics, &c.; Verbs, Regular and Irregular, Anecdotes, Correspondence, &c. Square crown 8vo, cloth, 250 pages, *Seventh Edition*, price 3s.; with 'Phrases of Daily Use and Practice,' 3s. 6d.

First Lessons in Conversational French Grammar. Being an Introduction to the 'Petites Leçons de Conversation et de Grammaire.' Fcap. 8vo, 128 pages, price 1s.

English Student's French Examiner. Being a Series of Progressive Papers intended to prepare Students for the Oxford and Cambridge Local Examinations, the Higher Examinations, the London University, &c. Square crown 8vo, cloth, 2s.

Practical and Conversational Reader. Adapted also to Translation, Recitation, and Dictation; followed by an Outline of French Accidence in 'Questions and Answers.' Square crown 8vo, price 2s. 6d.

ALTERNATIVE ELEMENTARY CHEMISTRY: Being a Course of Lessons adapted to the requirements of the new Syllabus of Chemistry recently instituted by the Science and Art Department. By JOHN MILLS of the Normal School, South Kensington. With a Preface by Professor THORPE, F.R.S. Illustrated with 65 Drawings. 104 pages. *Second Edition.* Crown 8vo, cloth, 1s. 6d.

LOW'S POCKET ENCYCLOPÆDIA: a Compendium of General Knowledge for Ready Reference. Containing 1206 columns, upwards of 25,000 References and numerous Plates. Specialists in various departments of learning have assisted the Author. *Second Edition*, now ready. Imperial 32mo, marbled edges, ornamental cloth, 3s. 6d.; roan, 4s. 6d.

"An enormous mass of information."—*Saturday Review.*

"Very correct and trustworthy."—*Standard.*

"The neatest, smallest, and most useful Encyclopædia we have yet seen."—*Spectator.*

LONDON: SAMPSON LOW, MARSTON & CO., Limited,
ST DUNSTAN'S HOUSE, FETTER LANE, FLEET STREET, E.C.

SEELEY & CO.'S LIST OF
Illustrated Books for Prizes and Presents.

BY REV. A. J. CHURCH.

Roman Life in the Days of Cicero.
Stories from Homer. 5s.
Stories from the Greek Tragedians. 5s.
Stories from Virgil. 5s.
Stories of the East, from Herodotus. 5s.
The Story of the Persian War. 5s.
With the King at Oxford. 5s.
Stories of the Magicians. 5s.
The Story of the Last Days of Jerusalem. 3s. 6d.
Stories from Livy. 5s.
A Young Macedonian. In the army of Alexander the Great. 5s.
The Greek Gulliver. Stories from Lucian. Sewed, 1s. Cloth, 1s. 6d.
Heroes and Kings. 1s. 6d.
The Chantry Priest of Barnet: a Tale of the Two Roses. 5s.
The Count of the Saxon Shore. 5s.
The Hammer: a Story of the Maccabees. 5s.
Three Greek Children. 3s. 6d.
To the Lions. 3s. 6d.

BY E. GILLIAT.

Forest Outlaws. 6s.
John Standish. 5s.

BY F. COWPER.

Cædwalla: a Tale of the Saxons. 5s.
The Captain of the "Wight." 5s.

BY P. G. HAMERTON.

Chapters on Animals. 5s.
The Sylvan Year. 5s.

POPULAR SCIENCE BY A. GIBERNE.

Sun, Moon, and Stars. 5s.
Among the Stars. 5s.
The World's Foundations. 5s.
The Ocean of Air. 5s.
Father Aldar. 5s.

BOOKS ON ART.

Early Flemish Artists. By W. M. Conway. 7s. 6d.
Stories of the Italian Artists. 5s.
Reynolds and Gainsborough. By W. M. Conway. 5s.
Life of Albert Durer. By Mrs Heaton. 10s. 6d.
Michael Angelo, Leonardo da Vinci, and Raphael. By C. Clement. 10s. 6d.

HISTORICAL TALES.

Belt and Spur. 5s.
The City in the Sea. 5s.
Border Lances. 5s.
The Dragon of the North. 5s.
The Pharaohs and their Land. 5s.
In His Name. 6s.

PICTURESQUE PLACES.

Windsor Castle. By W. J. Loftie. 6s.
Oxford. By Andrew Lang. 6s.
Cambridge. By W. J. Clarke. 6s.
Edinburgh. By R. L. Stevenson. 3s. 6d.
Westminster Abbey. By W. T. Loftie 7s. 6d.
An Italian Pilgrimage. By J. Pennell. 6s.
Exmoor. By J. Ll. W. Page. 7s. 6d.
Dartmoor. By J. Ll. W. Page. 7s. 6d.
The Peak of Derbyshire. By John Leyland. 7s. 6d.

LONDON: SEELEY & Co., Limited, ESSEX STREET, STRAND.

For the Edinburgh University Examinations.

KELLY'S KEYS TO THE CLASSICS.

Literal English Translations of the Latin and Greek Classics.

BOOK POST.—Any of these Keys will be sent by Post for Two Stamps extra. Orders by Post must be accompanied by Stamps or Post-Office Order, and will receive immediate attention.

Specimen of Kelly's Keys to the Classics. From *Cæsar's Gallic War*. By J. B. OWGAN,

"All Gaul is divided into three parts, of which the Belgæ inhabit one, the Aquitani another, those who in their own language are called Celtæ, in ours, Gauls, a third. All these differ among themselves in language, institutions, laws."

Kelly's Latin Keys.	s.	d.
Cæsar de Bello Gallico (Books 1 to 4)	1	6
Cæsar de Bello Gallico (Books 5, 6, 7)	1	6
Cæsar's Gallic War (Complete)	2	6
Cæsar de Bello Civili (Books 1 and 2)	1	6
Cicero's de Senectute et de Amicitia	1	0
Cicero's Offices	2	0
Cicero in Verrem. Actio Prima	1	6
Cicero against Catiline and Pro Balho, ea.	1	6
Cicero Pro Milone and Pro Murena, each	1	6
Cicero (Lege Manilia) (Pro Archia) each	1	0
Cicero's Divinatio (against Q. Cæcilius)	1	6
Cicero on the Nature of the Gods	2	6
Cicero Pro Roscio Amerino	1	6
Cicero Pro Cluentio and Pro Sestio, each	2	0
Cicero Pro Marcello	1	0
Cicero Pro Plancio	1	6
Cornelius Nepos	2	0
Eutropius	1	6
Horace (Complete)	2	6
Horace (Satires and Epistles)	1	6
Horace (Odes, Epodes)	1	6
Juvenal's Satires	2	0
Livy (Books 1 and 2, and Book 3), each	1	6
Livy (Books 1 to 3), and (4 and 5), each	2	6
Livy (Book 4), (Book 5), (Book 6) each	1	6
Livy (Book 21), and (Book 22), each	1	6
Livy (Book 23), and (Book 24), each	1	6
Ovid's Fasti (Books 1 to 3)	2	0
Ovid's Fasti (Books 4, 5, and 6)	2	0
Ovid's Fasti (Complete)	3	6
Ovid's Heroides (Epistles 1 to 13)	2	0
Ovid's ex Ponto (Books 1 and 2)	1	6
Ovid's ex Ponto (Books 3 and 4)	1	6
Ovid's Metamorphoses (Books 1 to 3)	1	6
Ovid's Metamorphoses (Books 4 and 5)	1	6
Ovid's Metamorphoses (Books 11 and 12)	1	6
Ovid's Metamorphoses (Book 13)	1	6
Ovid's Tristia (Books 1 and 2)	1	6
Ovid's Tristia (Book 3)	1	0
Plautus' Menæchmi, Trinummus, each	1	6
Sallust's Catiline	1	0
Sallust's Jugurtha	1	6
Sallust's Histories (Complete)	2	0
Tacitus' Annals, Books 1-3	1	6
Tacitus' Annals, Books 4-6	1	6
Tacitus' Annals (Books 1 to 6)	2	6
Tacitus' Histories (Books 1, 3, and 4), each	1	6
Tacitus' Germany and Agricola	1	6
Terence's Adelphi and Phormio, each	1	6
Terence's Heantontimorumenos	1	6
Terence's Andria	1	6
Virgil's Bucolics and Georgics	1	6
Virgil's Æneid (Books 1 to 6)	1	6
Virgil's Æneid (Books 7 to 12)	1	6
Virgil's Whole Works	2	6
Virgil's Æneid, Book 1, completely parsed	1	6

Kelly's Greek Keys.	s.	d.
Æschines' against Ctesiphon	2	0
Æschylus' Prometheus Vinctus	1	0
Æschylus' Seven against Thebes	1	0
Æschylus' Persæ	1	0
Aristophanes' Clouds	2	0
Demosthenes' Philippics	1	0
Demosthenes' Olynthiacs	1	0
Demosthenes on the Crown	2	0
Demosthenes against Leptines	1	6
Euripides' Hecuba and Medea, each	1	0
Euripides' Phœnissæ and Alcestis, each	1	0
Euripides' Ion and Hercules Furens, ea.	1	6
Euripides' Hippolytus and Troades, each	1	6
Euripides' Iphigenia in Aulis	1	6
Euripides' Bacchae and Andromache, ea.	1	6
Euripides' Heraclidae	1	0
Euripides' Iphigenia in Tauris,	1	0
Herodotus (Books 5 and 6)	2	6
Homer's Iliad (1 to 4), (5 to 8), each	1	6
Homer's Iliad (9 to 12), (13 to 16), each	1	6
Homer's Iliad (17 to 20), (21 to 24) each	1	0
Homer's Odyssey (Books 1 to 6)	2	0
Homer's Odyssey (Books 7 to 12)	2	0
Homer's Odyssey (Books 13 to 18)	2	0
Homer's Odyssey (Books 19 to 24)	2	6
Homer's Odyssey (Complete)	3	0
Isocrates' Panegyric	2	6
Lucian's Dialogues	2	0
Plato. Socrates & Crito, with the Phædo	2	0
Plato. Euthyphro and Laches	1	0
Sophocles' Œdipus Tyrannus	1	0
Sophocles' Antigone and Ajax, each	1	6
Sophocles' Philoctetes	1	0
Sophocles' Electra	1	6
Thucydides (Book 1)	2	6
Thucydides (Books 2, 3, and 4), each	1	6
Thucydides (Book 7)	1	6
Xenophon's Anabasis (Books 1 to 3)	1	6
Xenophon's Anabasis (Books 4 and 5)	1	0
Xenophon's Anabasis (Books 6 and 7)	1	6
Xenophon's Anabasis (Complete)	3	6
Xenophon's Hellenics (Books 1 to 3)	2	0
Xenophon's Cyropædia (Books 1, 2, 3)	2	0
Xenophon's Cyropædia (Books 4, 5, 6)	2	0
Xenophon's Cyropædia (Books 7 and 8)	2	0
Xenophon's Agesilaus	2	0
Xenophon's Œconomicus	2	0

Kelly's Keys to the French Classics.		
Corneille's Cinna and Le Cid, each	1	6
Corneille's Horace and Polyeucte, each	1	6
Moliere's Le Malade Imaginaire	1	6
Racine's Athalie and Esther, each,	1	6
Racine's Phèdre and Iphigénie, each	1	6
Xavier de Maistre, La Jeune Siberienne and Le Lepreux de la Cité d'Aoste	1	6

Also CORNISH'S INTERLINEAR WORD FOR WORD KEYS.

LONDON: JAMES CORNISH & SONS, 297 HIGH HOLBORN.
EDINBURGH: OLIVER & BOYD, AND JAMES THIN.

DR GILES'S KEYS TO THE CLASSICS.

Translated Word for Word with the Text.

Give the exact construing of the Greek and Latin Classics, as they are construed at the Universities and Public Schools.

Specimen of Dr Giles's Keys to the Classics.

From VIRGIL'S ÆNEID, Books I.—IV.

Cano I sing *arma* arms *virumque* and the man *qui* who *primus* first, *profugus* a wanderer *fato* by fate *venit* came *ab oris* from the shores *Trojae* of Troy *Italiam* to Italy *Lavinaque littora* and the Lavinian shores.

Latin.	s.	d.
Cæsar's Gallic War, Books 1 to 4	2	6
Cæsar's Gallic War, Books 5 to 7	2	6
Cæsar's Gallic War, complete, 1 vol.	5	6
Cicero on Old Age and Friendship	2	0
Cicero's Orations, vol. 1. Lege, Manilia, Archias, Rabirius and Sulla	2	6
Cicero's Orations, vol. 2. Against Catiline	2	6
Cicero's Nature of the Gods, Part I.	2	6
Cornelius Nepos	3	0
Horace's Odes and Epodes	2	6
Horace's Satires, Epistles, &c.	2	6
Horace, complete in 1 vol.	5	0
Juvenal and *Persius's* Satires	3	0
Livy's History, Books 21 and 22	2	6
Ovid's Metamorphoses, Books 1 to 4	2	6
Plautus' Trinummus and Miles Gloriosus	2	6
Sallust's War of Catiline	1	6
Sallust's Jugurthine War	2	6
Tacitus' Germany and Agricola	1	6
Terence's Andria and Eunuchus	2	6
Terence's Adelphi and Self-Tormentor	2	6
Terence's Phormio and Hecyra	2	6
Virgil's Bucolics and Georgics	2	6
Virgil's Æneid, Books 1 to 4	2	6
Virgil's Æneid, Books 5 to 8	2	6
Virgil's Æneid, Books 9 to 12	2	6
Virgil, complete in 1 vol.	10	6
Greek.		
Aristotle's Ethics, Books 1 to 5	3	6
Æschylus' Prometheus, Suppliants, Persæ, and Seven against Thebes	3	0
Æschylus, Agamemnon, Choephorus, and Eumenides	3	0

Greek—*continued.*	s.	d.
Euripides' Phœnissæ and Medea	2	6
Euripides' Hecuba and Orestes	2	6
Homer's Iliad, Books 1 to 6	3	6
Homer's Iliad, Books 7 to 12	3	6
Homer's Iliad, Books 13 to 15	2	6
Homer's Iliad, Books 16 to 18	2	6
Homer's Iliad, Books 19 to 21	2	6
Homer's Iliad, Books 22 to 24	2	6
Homer's Odyssey, Books 1 to 6	3	0
Homer's Odyssey, Books 7 to 12	3	0
Homer's Odyssey, Books 13 to 18	3	0
Homer's Odyssey, Books 19 to 24	3	0
Longinus on the Sublime	2	6
Pindar's Odes, Nemeans and Isthmians	1	6
Plato's Apology of Socrates and Crito	2	0
Xenophon's Anabasis, Books 1 and 2	2	6
Xenophon's Anabasis, Books 3, 4, and 5	3	0
Xenophon's Anabasis, Books 6 and 7	2	6
Xenophon's Memorabilia, Books 1 and 2 and Books 3 and 4, each	2	6
The New Testament, complete in 2 vols.	21	0

Parts to be had separately, as follows:—

St Matthew, St Mark, St Luke, St John, each	2	6
The Four Gospels in 1 vol.	10	6
The Acts of the Apostles	2	6
St Paul's Epistles—Romans to Corinthians	2	6
St Paul's Epistles—Galatians to Hebrews	2	6
The General Epistles and Revelation of St John	2	6

London: JAMES CORNISH & SONS, 297 High Holborn, W.C.
Edinburgh: OLIVER & BOYD, and JAMES THIN.

REEVES & TURNER,

BOOKSELLERS AND PUBLISHERS,

196 STRAND, LONDON

(Opposite Law Courts),

Issue Monthly Lists of Second-Hand Books in great variety, at moderate prices, sent free on receipt of 1d. stamp.

Catalogue of Publications on application.

BOOKS BOUGHT in any quantity for READY CASH.

ROUTLEDGE'S POPULAR LIBRARY OF STANDARD AUTHORS.

Large Crown 8vo. Cloth. **3s. 6d.** each. In Monthly Volumes.

1. **Emerson's Works,** with Steel Portrait, 640 pages.
2. **Lemprière's Classical Dictionary,** 700 pages.
3. **Thomas Carlyle's The French** Revolution, Complete, with Portrait.
4. **Burns' Poetical Works,** with 16 Plates, Edit. by C. Kent, 500 pages.
5. **The Spectator,** with Introduction and Index by Prof. Henry Morley.
6. **Moore's Poetical Works,** with 16 Plates, Edit. by C. Kent, 640 pages.
7. **Shakspere,** 1086 pages, 32 Plates.
8. **Walker's Rhyming Dictionary.**
9. **The Breakfast Table Series.** Complete. By O. W. Holmes. With Portrait.
10. **The Arabian Nights' Entertainments.** With 16 full-page Plates.
11. **A Thousand and One Gems of** English Poetry. Charles Mackay, LL.D. With Illustrations.
12. **Curiosities of Literature.** Complete Edition by Isaac D'Israeli.
13. **The Ingoldsby Legends.** 512 pages, with 22 full-paged Illustrations, reproduced from the Original Designs by Cruikshank and Leech.
14. **Familiar Quotations.** By John Bartlett.
15. **Cruden's Concordance.**
17. **Bailey's (P. J.) Festus,** Jubilee Edition, this Great Poem having been first published in 1839.
18. **Longfellow's Poetical Works.** Complete, 8 Plates.
19. **The Works of Charles Lamb,** Poetical and Dramatic, Tales, Essays, and Criticisms. Edited by Charles Kent.

22, 23, 24. **Shakspere,** Edited by Charles Knight. (Sets only.)

25, 26, 27. **Boswell's Life of Dr Johnson,** 3 vols. (Sets only.)

28. **Crabb's English Synonyms.**

29, 30, 31. **Motley's Dutch Republic,** 3 vols. (Sets only.)

33. **Don Quixote.**
34. **Josephus.**
36. **Byron's Poetical Works.** Complete.

MORLEY'S UNIVERSAL LIBRARY.

Re-issue in Monthly Volumes, **3s. 6d.** each, containing Three of the Shilling Vols.

1. **Homer's Iliad — Æschylus —** Sophocles.
2. **The Plays of Euripides.**
3. **Aristophanes — Aristotle — Virgil's Æneid.**
4. **Hitopadesa—Mediæval Tales—** The Chronicle of the Cid.
5. **Dante's Divine Comedy and** Banquet—The Decameron of Boccaccio.
6. **Thomas à Kempis — Life of** Wolsey—Ideal Commonwealths.
7. **Machiavelli and Rabelais,** 1513-1533.
8. **Peele, Drayton, and Hooker,** 1584-1603.
9. **Bacon, Ben Johnson, and Herrick,** 1597-1648.
10. **Don Quixote, Burlesque Plays,** &c., 1605-1825.
11. **Hobbes, Harrington's Oceana,** and Famous Pamphlets, 1644-1795.
12. **Hudibras — Izaak Walton —** Moliere.
13. **Locke — Filmer — Ellwood —** Defoe.
14. **Butler's Analogy — Johnson —** Voltaire—Goldsmith.
15. **Sterne—Burke—Sheridan.**
16. **Goethe—Marlowe—Schiller.**
17. **Lewis—De Quincey—Lamb.**
18. **Southey—Scott—Coleridge.**
19. **Edgeworth — Croker—Cunningham.**
20. **Praed—Walker—Cobbett.**
21. **Chambers — Emerson — Philobiblon,** &c. *Completing the Series.*

ROUTLEDGE & SONS, LIMITED, GLASGOW.

G. P. Putnam's Sons' Recent Publications

"HEROES OF THE NATIONS" SERIES,

EDITED BY

EVELYN ABBOTT, M.A.,

Fellow of Balliol College, Oxford.

Large crown 8vo, cloth 5s.; roxburgh, 6s.

The above will be a collection of Biographical Studies of the Lives and Work of a number of representative Historical Characters about whom have gathered the great traditions of the Nations to which they belonged, and who have been accepted, in many instances, as types of the several National Ideals. With the Life of each typical character will be presented a Picture of the National Conditions surrounding him during his career. Each Volume will be handsomely printed in large crown 8vo, and will contain numerous full-page Illustrations and Maps.

Now Ready.

Pericles and the Golden Age of Athens. By EVELYN ABBOTT, M.A., Fellow of Balliol College, Oxford.

Gustavus Adolphus and the Struggle of Protestantism for Existence. By C. R. L. FLETCHER, M.A., Fellow of Magdalen College, Oxford.

Horatio Nelson and the Naval Supremacy of England. By W. CLARK RUSSELL.

Theoderic the Goth, the Barbarian Champion of Civilization. By THOMAS HODGKIN, Author of "Italy and her Invaders," &c.

Ready Shortly.

Sir Philip Sidney and the Chivalry of England. By H. R. FOX-BOURNE.

Julius Cæsar, and the Organisation of the Roman Empire. By W. WARDE FOWLER, M.A., Fellow of Lincoln College, Oxford.

Bismarck. The New German Empire; How it Arose; What it Displaced. By JAMES SIME.

Full Prospectus post free on application.

The Life and Work of Charles Darwin. By CHARLES F. HOLDER, Author of "Living Lights," "The Ivory King," &c., &c. Crown 8vo, illustrated, cloth, 5s. ("Leaders in Science" series).

27 KING WILLIAM STREET, STRAND, LONDON; and NEW YORK.

A SELECTION FROM W. H. ALLEN & CO.'S ORIENTAL CATALOGUE.

HINDUSTANI.

Forbes's Hindustani-English Dictionary in the Persian Character, with the Hindi words in Nagari also; and an English-Hindustani Dictionary in the English Character; both in one volume. By DUNCAN FORBES, LL.D. Royal 8vo. 42s.

Forbes's Hindustani-English and English-Hindustani Dictionary, in the English Character. Royal 8vo. 36s.

Forbes's Smaller Dictionary, Hindustani and English, in the English Character. 12s.

Forbes's Hindustani Grammar, with Specimens of Writing in the Persian and Nagari Characters, Reading Lessons, and Vocabulary. 8vo. 10s. 6d.

Forbes's Hindustani Manual, containing a Compendious Grammar, Exercises for Translation, Dialogues, and Vocabulary, in the Roman Character. New Edition, entirely revised. By J. T. PLATTS. 18mo. 3s. 6d.

Forbes's Bagh o Bahar, in the Persian Character, with a complete Vocabulary. Royal 8vo. 12s. 6d.

Forbes's Bagh o Bahar in English, with Explanatory Notes, illustrative of Eastern Character. 8vo. 8s.

Forbes's Bagh o Bahar, with Vocabulary, English Character. 5s.

PERSIAN.

Forbes's Persian Grammar, Reading Lessons, and Vocabulary. Royal 8vo. 12s. 6d.

Gulistan. Carefully collated with the original MS., with a full Vocabulary. By JOHN PLATTS, late Inspector of Schools, Central Provinces, India. Royal 8vo, 12s. 6d.

Gulistan. Translated from a revised Text, with Copious Notes. By JOHN PLATTS. 8vo. 12s. 6d.

Wollaston's (Arthur N.) Translation of the Anvari Soheili. Royal 8vo. £2, 2s.

Wollaston's (Arthur N.) English-Persian Dictionary. Compiled from Original Sources. Royal 4to. £4, 14s. 6d.

Clarke's (Captain H. Wilberforce, R.E.) The Persian Manual. A Pocket Companion. Comprises A CONCISE GRAMMAR OF THE LANGUAGE, with Exercises, &c. A VOCABULARY OF USEFUL WORDS, ENGLISH AND PERSIAN, showing at the same time the difference of idiom between the two Languages. 18mo. 7s. 6d.

ARABIC.

Forbes's Arabic Grammar, intended more especially for the use of young men preparing for the East India Civil Service, and also for the use of self-instructing students in general. Royal 8vo, cloth. 18s.

Palmer's Arabic Grammar. 8vo. 18s.

Forbes's Arabic Reading Lessons, consisting of Easy Extracts from the best Authors, with Vocabulary. Royal 8vo, cloth. 15s.

The Arabic Manual. Comprising a condensed Grammar of both Classical and Modern Arabic; Reading Lessons and Exercises, and a Vocabulary of Useful Words. By Prof. E. H. PALMER, M.A., &c., Author of "A Grammar of the Arabic Language." Fcap. 7s. 6d.

Steingass' English-Arabic Dictionary. 8vo. 28s.

Steingass' Arabic-English Dictionary. 8vo. 50s.

A complete List of Text Books, Manuals, &c., in Oriental Languages, may be had on application.

LONDON: W. H. ALLEN & CO., LIMITED, 13 WATERLOO PLACE.

MESSRS MACLEHOSE'S UNIVERSITY BOOKS.

MIDWIFERY.—A system of Midwifery, including the diseases of Pregnancy and the Puerperal State. By WILLIAM LEISHMAN, M.D., Regius Professor of Midwifery in the University of Glasgow. Fourth Edition. Revised and Enlarged with Additional Illustrations. 2 Vols. Demy 8vo. Price 24s.

"We should counsel the student by all means to procure Dr Leishman's work."—*London Medical Record.*

PHYSIOLOGY.—A Text-Book of Physiology. By J. G. M'KENDRICK, M.D., LL.D., F.R.S., Professor of the Institutes of Medicine in the University of Glasgow. 2 Vols. Demy 8vo.

Vol. I.—General Physiology, including the Chemistry and Histology of the Tissues and the Physiology of Muscle. 542 Pages, 400 Illustrations. 16s.

Vol. II.—Special Physiology, including Nutrition, Innervation, and Reproduction, 830 Pages, 500 Illustrations. 24s.

"The clearness of the style, and the abundance and excellence of the drawings, cannot fail to render the work, as it deserves to be, one of the most popular text-books of Physiology in our language."—*Dublin Journal of Medical Science.*

KANT.—The Critical Philosophy of Immanuel Kant. By EDWARD CAIRD, M.A., LL.D., Professor of Moral Philosophy in the University of Glasgow. 2 Vols. Demy 8vo. 32s.

"It is quite the most comprehensive and maturely considered contribution that has yet been made by an English writer to the understanding of Kant's whole philosophical achievement. It is in every way a thorough and masterly performance."—*Mind.*

SOCIAL PHILOSOPHY.—An Introduction to Social Philosophy. By JOHN S. MACKENZIE, M.A. Glas., B.A. Cantab., Fellow of Trinity College, Cambridge, and Lecturer on Philosophy at Owens College, Manchester: formerly Shaw Philosophical Fellow and Examiner in Philosophy in the University of Glasgow. Demy 8vo. 10s. 6d.

"This book may be safely commended to those who are interested in the social problems of our time, and do not shrink from their study in a comprehensive and philosophical manner. Mr Mackenzie has read much and writes well."—*The Times.*

HOMER.—An Introduction to the Iliad and the Odyssey. For the use of Schools and Colleges. By R. C. JEBB, Litt.D., LL.D., Professor of Greek in the University of Cambridge. Third Edition. Crown 8vo. 3s. 6d.

"Professor Jebb has rendered a signal service to the scientific study of Greek literature by the publication of this little book. So far as we are aware, nothing of the same sort has been done of late years, even in Germany. We heartily commend the handbook before us to the diligent study of all beginners and many 'ripe scholars.'"—*Athenæum.*

KANT.—The Philosophy of Kant, as contained in Extracts from his own Writings. Selected and Translated by JOHN WATSON, LL.D., Professor of Moral Philosophy in the University of Queen's College, Kingston, Author of "Kant and his English Critics." Crown 8vo. 7s. 6d.

"Cannot fail soon to recommend itself to all concerned."—*Mind.*

PATHOLOGY.—Outlines of Practical Pathology. An Introduction to the Practical Study of Morbid Anatomy and Histology. By J. LINDSAY STEVEN, M.D., Demonstrator of Pathology, Western Infirmary, Glasgow. Crown 8vo. 7s. 6d.

"To the earnest student bent on seeing for himself the facts of which he reads, such a manual as that of Dr Steven's will be invaluable."—*Lancet.*

THE EAR.—Manual of Diseases of the Ear, for the Use of Practitioners and Students of Medicine. By THOMAS BARR, M.D., Lecturer on Aural Surgery, Anderson's College, Glasgow. Crown 8vo. Illustrated. 10s. 6d.

"The best manual on the subject that has been produced for many years."—*Medical Chronicle.*

GLASGOW: JAMES MACLEHOSE & SONS, PUBLISHERS TO THE UNIVERSITY.
LONDON: MACMILLAN & CO. EDINBURGH: DOUGLAS & FOULIS

WORKS BY PROFESSOR BAIN.

	s.	d.
First English Grammar,	1	4
Key, with Additional Exercises,	1	9
Higher English Grammar, Revised and Enlarged,	2	6
Companion to Higher English Grammar,	3	6
English Composition and Rhetoric,	4	0
The same enlarged, in Two Parts—		
Part First—Intellectual Qualities of Style,	3	6
Part Second—Emotional Quality of Style,	3	6
On Teaching English,	2	6
Logic, in Two Parts—		
Deduction,	4	0
Induction,	6	6
Mental and Moral Science,	10	6
Or, Psychology and History of Philosophy,	6	6
Ethical Theory and Ethical Systems,	4	6
The Senses and the Intellect,	15	0
The Emotions and the Will, New Edition,	15	0
James Mill: A Biography,	2	0
John Stuart Mill: A Criticism, with Personal Recollections,	1	0
Practical Essays,	2	0

LONGMANS, GREEN & CO.

PRIZE ESSAYS

For Competition by Students in the University of Edinburgh.

The Rev. William Ritchie, D.D., Rev. William David Herald, M.A., Messrs William Crawford and Charles Watson, all of Duns, in the County of Berwick, Trustees of Gray's Prize Essay Fund, hereby offer this year for competition, Three Prizes of £20, £10, £5, respectively, for the First, Second, and Third Essays in the order of Merit, on

"THE LIFE AND POETRY OF JOHN MILTON."

In accordance with the Terms of the Trust Deed, the Competitors for these Prizes must be Students in the University of Edinburgh in this Winter Session (1890-91), who at the commencement thereof were not of more than three years' standing, from their first Matriculation in a University Curriculum. Each Essay submitted for Competition must have a Motto prefixed to it, and be accompanied with a SEPARATE sealed Envelope, bearing this Motto, and having enclosed the Name and Address of the Author; and these must be forwarded to the Secretary on or before the 1st of September next. The length of each Essay must not exceed what may be read *in an hour*, and the Trustees find it necessary to make this restriction as to time an essential condition in the Competition. The decision will be announced in the Newspapers in the beginning of November, but if it is judged that none of the Essays merit the Prizes offered, the right is reserved of declining to award them, and of offering them for future Competition. The successful Essays will be retained as the Property of the Trustees. The Sealed Envelope must not be put within an Essay, but sent enclosed to the Secretary apart.

Duns, 14*th March* 1891. WILLIAM RITCHIE, D.D., *Secretary.*

Smith, Elder & Co.'s Publications.

ELLIS'S Demonstrations of Anatomy. Being a Guide to the Knowledge of the Human Body by Dissection. Edited and Revised by G. D. THANE, Professor of Anatomy, University College, London. Eleventh Edition, with numerous Illustrations small 8vo, 12s. 6d.

SCHÄFER.—A Course of Practical Histology. By EDWARD ALBERT SCHÄFER. With numerous Illustrations, crown 8vo, 10s. 6d.

KLEIN and SMITH.—Atlas of Histology. By E. KLEIN, M.D., F.R.S., and NOBLE SMITH, F.R.S.C. Edin., L.R.C.P. Lond., &c. Royal 4to, with 48 Coloured Plates, bound in half-leather, price, £4, 4s., or in 13 parts, price 6s. each.

FERRIER.—The Functions of the Brain. By DAVID FERRIER, M.D., LL.D., F.R.S. Second Edition, re-written, with many new Illustrations, 8vo, 18s.

BRISTOWE.—A Treatise on the Theory and Practice of Medicine. By JOHN SYER BRISTOWE, M.D. Lond., F.R.S., &c. Seventh Edition, 8vo, 18s.

FINLAYSON.—Clinical Manual for the Study of Medical Cases. Edited by JAMES FINLAYSON, M.D. Second Edition, Revised and Enlarged, with many new Illustrations, crown 8vo, 12s. 6d.

ROBERTS.—A Practical Treatise on Urinary and Renal Diseases, including URINARY DEPOSITS. Fourth Edition. Revised and Enlarged. By Sir WILLIAM ROBERTS, M.D., F.R.S. Assisted by ROBERT MAGUIRE, M.D Lond. Small 8vo. 12s. 6d.

GEE. — Auscultation and Percussion. By SAMUEL GEE, M.D. With Illustrations. Third Edition, fcap. 8vo, 6s.

HEATH.—A Dictionary of Practical Surgery. By Various British Hospital Surgeons. Edited by CHRISTOPHER HEATH, F.R.C.S., Holme Professor, Clinical Surgery, Univ. Coll. Lond. Third Edition, 2 vols., comprising 1864 pages, royal 8vo, price 32s., bound in cloth; or in half-morocco, marbled edges, 42s.

HOLMES.—A Treatise on Surgery: Its Principles and Practice. By T. HOLMES, M.A. Cantab., F.R.C.S., Consulting Surgeon to St George's Hospital, etc., Fifth Edition, edited by T. PICKERING PICK, Surgeon to, and Lecturer on Surgery at, St George's Hsspital. With upwards of 400 Illustrations, royal 8vo, 30s.

KEETLEY.—An Index of Surgery. Being a Concise Classification of the Main Facts and Theories of Surgery, for the use of Senior Students and others. By C. B. KEETLEY, F.R.C.S., Surgeon to the West London Hospital. Fourth Edition, crown 8vo, 10s. 6d.

PAYNE.—A Manual of General Pathology. By JOSEPH F. PAYNE, M.D., F.R.C.P., Physician and Joint Lecturer on Pathological Anatomy at St Thomas's Hospital, etc. With Coloured Plate and 150 Woodcuts, crown 8vo, 12s. 6d.

PLAYFAIR.—A Treatise on the Science and Practice of Midwifery. By W. S. PLAYFAIR, M.D., LL.D., F.R.C.P. In 2 vols., demy 8vo. Seventh Edition. With 187 Illustrations and 6 plates, 28s.

MARSHALL.—A Junior Course of Practical Zoology. By A. MILNES MARSHALL, M.D., D.Sc., M.A., F.R.S., Professor in the Victoria University, &c., assisted by C. HERBERT HURST. Second Edition, Revised, with additional Illustrations, crown 8vo, 10s. 6d.

LONDON: SMITH, ELDER & CO., 15 WATERLOO PLACE.

STANDARD WORKS.

English Prose: Its Elements, History, and Usage. By John Earle, M.A., Rector of Swanswick, formerly Fellow and Tutor of Oriel College, Professor of Anglo-Saxon in the University of Oxford, Author of "The Philology of the English Tongue," &c. 8vo, 16s.

The Historic Note-Book. With an Appendix of Battles. By the Rev. E. Cobham Brewer, LL.D., Author of "Guide to Science," "The Dictionary of Phrase and Fable," "The Reader's Handbook," "Dictionary of Miracles," &c. Now ready, crown 8vo, over 1000 pp., 10s. 6d.

Geological Observations on the Volcanic Islands and Parts of South America visited during the Voyage of H.M.S. "Beagle." By Charles Darwin, M.A., F.R.S. Third Edition, with Maps and Illustrations, crown 8vo, 12s. 6d.

The Structure and Distribution of Coral Reefs. By Charles Darwin, M.A., F.R.S., F.G.S. With an Appendix by Professor T. G. Bonney, D.Sc., F.R.S., F.G.S. Third edition, with Three Plates. Crown 8vo, 8s. 6d.

Aspects of the Earth: A Popular Account of some Familiar Geological Phenomena. By N. S. Shaler, Professor of Geology in Harvard University. With 100 Illustrations. Royal 8vo, 16s.

A History of English Thought in the Eighteenth Century. By Leslie Stephen. Second edition. Two vols. demy 8vo, 28s.

The Science of Ethics: An Essay upon Ethical Theory as modified by the Doctrine of Evolution. By Leslie Stephen. Demy 8vo, 16s.

Renaissance in Italy. By John Addington Symonds. AGE OF THE DESPOTS, Second Edition, demy 8vo, 16s.: THE REVIVAL OF LEARNING, Second Edition, demy 8vo, 16s.: THE FINE ARTS, Second Edition, demy 8vo, 16s.: THE CATHOLIC REACTION, 2 vols. demy 8vo, 32s.

Shakespeare's Predecessors in the English Drama. By John Addington Symonds. Demy 8vo, 16s.

Shakespeare Commentaries. By Dr G. G. Gervinus, Professor at Heidelberg. Translated by F. E. Burnett. With a Preface by F. J. Furnivall. 8vo, 14s.

Studies of the Greek Poets. By John Addington Symonds. Second series, Second edition. Crown 8vo, 10s. 6d.

The Life of Goethe. By George Henry Lewes. Fourth Edition. With Portrait. 8vo, 16s.

The Life of Lord Lawrence. By R. Bosworth Smith, M.A., late Fellow of Trinity College, Oxford. Sixth edition. Two vols. large crown 8vo, with Two Portraits and Two Maps, 21s.

Life of Henry Fawcett. By Leslie Stephen. With Two Steel Portraits. Fourth edition. Large crown 8vo, 12s. 6d.

Life of Frank Buckland. By his Brother-in-Law, George C. Bompas, Editor of "Notes and Jottings from Animal Life." With a Portrait. Crown 8vo, 5s.; gilt edges, 6s.

Life and Writings of Joseph Mazzini. In Six Volumes, Crown 8vo, 4s. 6d. each. Vols. I., III., and V. are entitled "AUTOBIOGRAPHICAL and POLITICAL;" and II., IV., and VI., "CRITICAL and LITERARY."

Anatomy for Artists. By John Marshall, F.R.S., F.R.C.S., Professor of Anatomy, Royal Academy of Arts, &c. Illustrated with 220 Original Drawings on Wood by J. S. Cuthbert; Engraved by George Nicholls & Co. Third edition, imperial 8vo, 31s. 6d.

*** *Messrs SMITH, ELDER & CO. will be happy to forward a CATALOGUE of their PUBLICATIONS, post free, on application.*

LONDON: SMITH, ELDER & CO., 15 WATERLOO PLACE.

EDINBURGH UNIVERSITY MEDICAL CLASS BOOKS.

FIRST YEAR'S COURSE—SUMMER SESSION.

			Cash Price.
BOTANY.			
Prantl and Vine's Botany,	£0 9 0	for	£0 6 9
Bower and Vine's Botany,	0 10 6	,,	0 8 0
Strasburger's Botany,	0 9 0	,,	0 6 9
Fothergill's Botanical Types,	0 2 0	,,	0 1 6
Hooker's Student's Flora,	0 10 6	,,	0 8 0
Macalpine's Histological Botany,	0 2 0	,,	0 1 6
Macnab's Botany, 2 parts, each,	0 1 6	,,	0 1 2
Cook's Structural Botany,	0 1 0	,,	0 0 9
Guide to the Botanic Gardens,	——	,,	0 0 6
NATURAL HISTORY.			
Prof. Cossar Ewart's Class Syllabus,	——	,,	0 2 6
,, Syllabus of the Mammalia, fine paper edition,	——	,,	0 10 0
Prof. Cossar Ewart's Dissection of the Frog, Amœba, Slug, Snail, Rabbit, &c.,	0 7 0	,,	0 5 3
Fothergill's Zoological Types,	0 5 0	,,	0 3 9
Claus' Zoology, Pt. I.,	1 1 0	,,	0 16 0
,, Pt. II.,	0 16 0	,,	0 12 0
Huxley's Vertebrates,	0 12 0	,,	0 9 0
,, Invertebrates,	0 16 0	,,	0 12 0
Macalister's Vertebrates and Invertebrates, each,	0 1 6	,,	0 1 2
M'Alpine's Zoological Atlas, Vertebrates,	0 10 6	,,	0 5 0
,, ,, Invertebrates,	0 7 6	,,	0 5 0
Parker's Zootomy,	0 8 6	,,	0 6 6
Packard's Zoology,	0 15 0	,,	0 11 3
Howe's Atlas of Biology,	0 14 0	,,	0 10 6
Smith and Norwell's Illustrations,	0 12 6	,,	0 9 6

FIRST YEAR'S COURSE—WINTER SESSION.

ANATOMY.			
Prof. Turner's Anatomy,	£0 16 0	for	£0 12 0
Gray's Anatomy,	1 16 0	,,	1 7 0
Quain's Anatomy, 2 vols.,	1 16 0	,,	1 7 0
,, *New Ed.*, Vol. I. Pt. I., Embryology,	0 9 0	,,	0 6 9
,, ,, Vol. II. Pt. I., Osteology,	0 9 0	,,	0 6 9
PRACTICAL ANATOMY.			
Heath's Anatomy,	0 15 0	,,	0 11 3
Ellis' Demonstrations,	0 12 6	,,	0 9 6
Holden's Osteology,	0 16 0	,,	0 12 0
Holden's Manual of Dissections,	1 0 0	,,	0 15 0
Cunningham's Dissector, Abdomen,	0 6 6	,,	0 5 0
,, ,, Head and Neck,	0 8 0	,,	0 6 0
,, ,, Upper and Lower Limb,	0 9 0	,,	0 6 9
Smith's Atlas of Anatomy,	1 5 0	,,	0 19 0
CHEMISTRY.			
Prof. Crum Brown's Chemistry,	0 1 0	,,	0 0 9
Bloxam's Chemistry,	0 18 0	,,	0 13 6
Wurtz's Elements of Modern Chemistry,	0 10 6	,,	0 8 0
Roscoe's Chemistry,	0 4 6	,,	0 3 6
Roscoe and Schorlemmer's Chemistry, 7 vols.,	6 18 0	,,	5 4 6
Remsen's Inorganic Chemistry,	0 6 6	,,	0 5 0
,, Organic Chemistry,	0 6 6	,,	0 5 0
Kolbe's Inorganic Chemistry,	0 7 6	,,	0 5 8
Drinkwater's Chemical Tables,	——	,,	0 1 0
Milne Murray's Chemical Notes and Equations,	0 2 0	,,	0 1 6
,, ,, interleaved,	0 2 6	,,	0 2 0

JAMES THIN, Bookseller and Publisher to the University,
54 & 55 South Bridge, 14 & 15 Infirmary Street, and 1 & 2 Lindsay Place.

EDINBURGH UNIVERSITY MEDICAL CLASS BOOKS.

		Cash Price.
PHYSIOLOGY AND HISTOLOGY.		
Landois' Physiology, *New Edition*,	£2 2 0	for £1 12 0
Foster's Physiology, 3 vols., *New Edition*,	1 8 6	,, 1 1 8
Kirke's Physiology,	0 14 0	,, 0 10 6
Schafer's Histology,	0 6 0	,, 0 4 6
Power's Physiology,	0 6 0	,, 0 4 6
Klein's Histology,	0 7 6	,, 0 5 8
Stirling's Practical Physiology,	0 8 6	,, 0 6 6
SURGERY.		
Holmes' Surgery, 1 vol.,	1 10 0	,, 1 2 6
,, System of Surgery, 3 vols.,	4 4 0	,, 1 5 0
Erichsen's Surgery, 2 vols.,	2 8 0	,, 1 16 0
Druitt's Surgeon's Vade Mecum,	0 14 0	,, 0 10 6
Bryant's Surgery, 2 vols.,	1 8 0	,, 1 1 0
Treves' Surgery, 3 vols.,	1 2 6	,, 0 17 0
Chiene's Lectures,	0 2 6	,, 0 2 0
,, Surgical Anatomy,	0 12 6	,, 0 9 6
Heath's Dictionary of Surgery, 2 vols.,	1 12 0	,, 1 4 0
Bell's Surgical Operations,	0 6 0	,, 0 4 6
Walsham's Surgery,	0 10 6	,, 0 8 0
MATERIA MEDICA.		
Garrod's Materia Medica,	0 12 6	,, 0 9 6
Gerard's ,, ,,	0 8 6	,, 0 6 6
Wood's ,, ,,	0 18 0	,, 0 13 6
Martindale's Extra Pharmacopœia	0 7 6	,, 0 5 8
Mitchell Bruce's Materia Medica and Therapeutics,	0 7 6	,, 0 5 8
Lauder Brunton's Pharmacology and Therapeutics,	1 1 0	,, 0 16 0
Squire's Companion to the Pharmacopœia,	0 10 6	,, 0 8 0
PATHOLOGY.		
Payne's Pathology,	0 12 6	,, 0 9 6
Green's Pathology,	0 12 6	,, 0 9 6
Ziegler's Pathology, 3 vols.,	1 17 6	,, 1 8 6
Hamilton's Pathology,	1 5 0	,, 0 19 0
Coates' Pathology,	1 11 6	,, 1 4 0
Woodhead's Pathology,	1 4 0	,, 0 18 0
MIDWIFERY AND DISEASES OF WOMEN.		
Playfair's Midwifery, 2 vols.,	1 8 0	,, 1 1 0
Leishman's Midwifery, 2 vols.,	1 4 0	,, 0 18 0
Meadows' Midwifery,	0 12 6	,, 0 9 6
Hart and Barbour's Gynecology,	1 5 0	,, 0 19 0
Croom's Operations,	0 6 0	,, 0 4 6
Thorburn's Diseases of Women,	1 1 0	,, 0 16 0
PRACTICE OF MEDICINE.		
Bristowe's Medicine,	1 1 0	,, 0 16 0
Fagge's Practice of Medicine, 2 vols.,	1 18 0	,, 1 8 6
Hooper's Physician's Vade Mecum,	0 12 6	,, 0 9 6
Quain's Dictionary of Medicine, 2 vols.,	1 14 0	,, 1 5 6
Roberts' Medicine,	1 1 0	,, 0 16 0
Charteris' Medicine,	0 9 0	,, 0 6 9
Carter's Medicine,	0 9 0	,, 0 7 6
Taylor's Practice of Medicine,	0 15 0	,, 0 11 3
MEDICAL JURISPRUDENCE.		
Taylor's Manual of Jurisprudence,	0 14 0	,, 0 10 6
,, Principles ,, 2 vols.,	1 11 6	,, 1 4 0
Guy's Forensic Medicine,	0 12 6	,, 0 9 6
Husband's Medical Jurisprudence,	0 10 6	,, 0 8 0
Abercrombie's ,,	0 7 6	,, 0 5 8

JAMES THIN, Bookseller and Publisher to the University,
54 & 55 South Bridge, 14 & 15 Infirmary Street, and 1 & 2 Lindsay Place.

ENGLISH AND SCOTTISH

Law Life Assurance Association.

EDINBURGH: 120 Princes Street. WILLIAM SMITH, LL.D., *Manager.*

LONDON: 12 Waterloo Place. ARTHUR JACKSON, *General Manager.*

Directors in Edinburgh.

ANDREW BEATSON BELL, Esq., Advocate, *Chairman.*

CHARLES COOK, Esq., W.S.
ALEX. FORBES IRVINE, Esq., of Drum, Sheriff of Argyll.
ÆNEAS J. G. MACKAY, Esq., LL.D., Sheriff of Fife.
FLETCHER NORTON MENZIES, Esq. of Menzies.
JAMES A. ROBERTSON, Esq., C.A.
ARCHIBALD STEUART, Esq., W.S.
ROBERT STRATHERN, Esq., W.S.

NINTH QUINQUENNIAL VALUATION AND DIVISION OF PROFITS 1890.

NINE-TENTHS OF THE PROFITS of the Life Assurance Fund were appropriated to the ASSURED, and provided for REVERSIONARY BONUS ADDITIONS at the INCREASED RATE of

TWO POUNDS PER CENT. PER ANNUM

for each full Annual Premium paid during the Quinquennium on all PARTICIPATING POLICIES in force at Christmas, 1890, either for the WHOLE TERM of LIFE or for ENDOWMENT ASSURANCES. An INTERIM BONUS at two-thirds of the above rate will be paid on all Policies entitled to participate in Profits that may become Claims before Christmas 1895.

A NEW TABLE of Limited PREMIUMS on an ASCENDING SCALE has been introduced—with LOW INITIAL PAYMENTS, increasing every Five years, but *the Premiums ceasing altogether in* 20 *years*, after which THE ASSURED PARTICIPATE in PROFITS.

Attention is also again invited to the ORIGINAL "DOUBLE BENEFIT" ENDOWMENT ASSURANCE SCHEME of the Office, the Policies under which should prove REMUNERATIVE INVESTMENTS to HEALTHY LIVES.

POLICIES are now WORLD-WIDE after the FIRST YEAR; and Minimum Surrender Values are Guaranteed. LOANS. ANNUITIES.

*** *Forms of Proposal for Assurance, &c., may be had on application.*

TO STUDENTS.

STYLOGRAPHIC AND ALL KINDS OF FOUNTAIN PENS, English and American.

SPRING-PEN LITHOGRAPH AND CYCLOSTYLE Apparatuses for multiplying copies of Examination papers, diagrams, &c.

NOTE BOOKS.—A large stock is kept so that the patterns selected may be renewed all through the Session, thus enabling Students to keep uniform sets.

THESES PAPER.—Size and ruling prescribed in "University Calendar," different qualities.—Also Medical Visiting Lists in leather binding.

MISCELLANEOUS ARTICLES FOR UNIVERSITY PURPOSES—such as special Blackboard recommended in Medical Schools, white and coloured Chalks for Blackboards, Leather Note Cases, Matriculation Card Cases, &c.

VISITING CARDS done on the premises at shortest notice. No plate required.

GARDINER'S

UNIVERSITY STATIONERY WAREHOUSE,

66 SOUTH BRIDGE, & 14 TEVIOT PLACE (*Opposite the University*),

ROYAL INFIRMARY, EDINBURGH.

In this Hospital a portion of the beds is set apart for Clinical Instruction by the Professors of the University of Edinburgh. Courses of Clinical Medicine and Surgery are also given by the Ordinary Physicians and Surgeons. Special Instruction is given in the Medical Department on the Diseases of Women, of the Skin, Physical Diagnosis, &c., and in the Surgical Department on Diseases of the Eye, the Ear and the Larynx. Separate Wards are devoted to Venereal Diseases, Diseases of Women, Diseases of the Eye; also to cases of Incidental Delirium or Insanity. Post-mortem Examinations are conducted in the Anatomical Theatre by the Pathologists, who also give practical Instruction in Pathological Anatomy and Histology.

MEDICAL DEPARTMENT.

Consulting Physicians,	Dr George W. Balfour. Prof. Sir Douglas Maclagan.
Consulting Physician for Diseases of Women,	Dr Alexander Keiller.
Professors of Clinical Medicine,	Dr Alexander R. Simpson. Dr T. Grainger Stewart. Dr T. R. Fraser. Dr W. S. Greenfield.
Ordinary Physicians and Lecturers on Clinical Medicine,	Dr Claud Muirhead. Dr David J. Brakenridge. Dr John Wyllie. Dr J. O. Affleck.
Extra Physician and Lecturer on Diseases Peculiar to Women,	Dr J. Halliday Croom.
Assistant Physicians,	Dr Andrew Smart. Dr Alexander James. Dr Byrom Bramwell. Dr Geo. A. Gibson. Dr Alex. Bruce. Dr R. W. Philip.
Extra Assistant Physicians for Diseases of Women,	Dr D. Berry Hart. Dr A. H. Freeland Barbour.
Extra Physician for Diseases of the Skin,	Dr Allan Jamieson.

SURGICAL DEPARTMENT.

Consulting Surgeons,	Dr J. D. Gillespie. Dr P. H. Watson. Mr Joseph Bell.
Consulting Dental Surgeon,	Dr John Smith.
Professor of Clinical Surgery,	Mr Annandale.
Professor of Surgery,	Mr Chiene.
Ordinary Surgeons,	Mr John Duncan. Mr A. G. Miller. Dr P. H. Maclaren.
Ophthalmic Surgeons,	Dr Argyll Robertson. Mr George A. Berry.
Assistant Surgeons,	Dr C. W. MacGillivray. Mr J. M. Cotterill. Mr Charles W. Cathcart. Mr Francis M. Caird. Dr J. W. B. Hodsdon. Mr J. Shaw M'Laren.
Dental Department,	Surgeons to the Edinburgh Dental Hospital and School.
Surgeon to Ear and Throat Department,	Dr P. McBride.
Assistant Ophthalmic Surgeons,	Dr George Mackay. Dr Geo. Wm. Sym.
Assistant Surgeon to Ear and Throat Department,	Dr R. M'Kenzie Johnston.
Pathologists,	Dr William Russell. Mr W. H. Barrett.

Hospital Tickets.—Perpetual Ticket, in One Payment, £12: Annual Ticket, £6, 6s., Six Months, £4, 4s.; Three Months, £2, 2s.; One Month, £1, 1s. Separate Payments, amounting to £12, 12s., entitle the Student to a Perpetual Ticket on production of previous Season Tickets.

ROYAL INFIRMARY, EDINBURGH.—*Continued.*

Appointments.—No Fees are charged for any Medical or Surgical Appointments in this Hospital, which are as follows:—

1. RESIDENT PHYSICIANS and SURGEONS, who must be registered as legally qualified Practitioners, are from time to time appointed by the Managers on the recommendation of the Physicians and Surgeons. The holders of these Offices live in the House free of Charge. The appointment is for six months, but may be renewed at the end of that period by special recommendation.
2. SPECIAL NON-RESIDENT CLINICAL CLERKS, who must also be registered as legally qualified Practitioners, are appointed by the Managers on the recommendation of the Physicians and Surgeons. The appointment is on the same terms as that of the Resident Physicians and Surgeons.
3. CLERKS and DRESSERS are appointed by the Physicians and Surgeons. These appointments are open to all Students and Junior Practitioners holding Hospital Tickets.
4. ASSISTANTS in the PATHOLOGICAL DEPARTMENT are appointed by the Pathologsts.

JAMES S. TRAINER, *Treasurer and Clerk.*

ARCHD. YOUNG,

SURGICAL INSTRUMENT MAKER,

57 & 61 FORREST ROAD,

(East end of Lauriston, opposite Infirmary Gate)

EDINBURGH.

Dissecting Cases, Pocket Cases, Stethoscopes, Ophthalmoscopes, Clinical Thermometers, Microscopes, Section Cutters, Slides.

HUMAN OSTEOLOGY.

THE CYCLOSTYLE COMPANY.

SOLE PROPRIETORS, PATENTEES, AND MANUFACTURERS OF THE

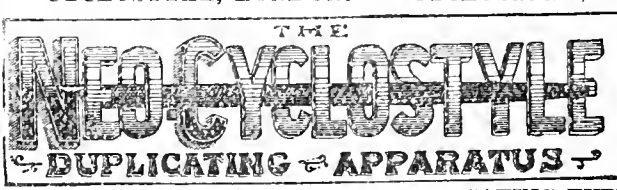
NEO-CYCLOSTYLE DUPLICATING APPARATUS and CYCLOSTYLE PATENTS.

(GESTETNER'S PATENT.)

The Neo-Cyclostyle Copying process is practically the only one which will work satisfactorily and continuously in a hot climate. A new Indestructible Indiarubber Roller has been invented and is now supplied at a small extra charge in lieu of the old Composition—one which was liable to be affected by heat and damp.

Telegrams—"CYCLOSTYLE, LONDON." "CYCLOSTYLE, EDINBURGH.

THIS APPARATUS WILL GIVE **2000 Copies In Black,**



OR ANY OTHER COLOUR, **From ONE ORIGINAL.**

THE "NEO-CYCLOSTYLE PROCESS" FOR DUPLICATING TYPEWRITING.

(GESTETNER'S PATENT.)

This is a simple and perfect process for producing copies of Typewriting, by means of which 1000 copies may be taken equal to original Typewriting. It may be used with the "Remington," "Caligraph," "Barlock," or "Hammond" Typewriters.

As supplied to the War Office, Lloyd's, and Leading Merchants and Banking Houses.

Messrs FAIRHOLME & CO.,

Edinburgh Depot: 25 SOUTH CLERK STREEET;

London: 34 SNOW HILL, HOLBORN VIADUCT.

LEWIS'S TEXT-BOOKS.

ROBERTS. **Handbook of Medicine.** 8th Edition. 21s.
ROBERTS. **Officinal Materia Medica.** 2nd Edition. 7s. 6d.
GRUBER. **A Text-Book of the Diseases of the Ear.** 24s.
COUPLAND. **Examination of Sputum, Vomit, Fæces, and Urine.** 1s. net.
HUTCHINSON. **Diseases of the Nose and Throat.** 3s. 6d.
PARKES. **Hygiene and Public Health.** 2nd Edition. 9s.
CROCKER. **Diseases of the Skin.** Illustrations. 21s.
LEWERS. **Diseases of Women.** 3rd Edition. 10s. 6d.
MONEY **Disease in Children.** 2nd Edition. 10s. 6d.
RINGER. **Handbook of Therapeutics.** 12th Edition. 15s.
MONEY. **Practice of Medicine.** 6s. 6d.
HIGGENS. **Manual of Ophthalmic Practice.** 6s.
DALE. **Epitome of Surgery.** 10s. 6d.
RIDEAL. **Practical Organic Chemistry.** 2s. 6d.
COLMAN. **Section Cutting and Staining.** 3s.
WINDLE. **Handbook of Surface Anatomy.** 3s. 6d.
HILL. **Essentials of Bandaging.** 6th Edition. 5s.
LEWIS. **Pocket Medical Vocabulary.** 2nd Edition. 3s. 6d.
SWANZY. **Diseases of the Eye.** 3rd Edition. 10s. 6d.
COLLIE. **On Fevers.** Coloured Plates. 8s. 6d.
STRÜMPELL. **Text-Book of Medicine.** 28s.
LUSK. **Science and Art of Midwifery.** 3rd Edition. 18s.
CARTER. **Elements of Medicine.** 6th Edition. 9s.
GERRARD. **Elements of Mat. Med. and Pharmacy.** 8s. 6d.
PRITCHARD. **Diseases of the Ear.** 2nd Edition.
RALFE. **Diseases of the Kidneys.** Illustrated. 10s. 6d.
BARRETT. **Dental Surgery.** 2nd Edition. 3s. 6d.
HARVEY AND DAVIDSON. **Syllabus of Materia Medica.** 1s. 6d.
HILL AND COOPER. **Venereal Diseases.** 4th Edition. 2s. 6d.
BARNES. **German-English Medical Dictionary.** 9s.
GIBBES. **Practical Histology.** 3rd Edition. 6s.
LEGG. **Examination of the Urine.** 6th Edition. 2s. 6d.
POWELL. **Diseases of the Lungs.** 3rd Edition. 16s.
BURT. **Exploration of the Chest.** Illustrations. 6s.
MURRELL. **What to do in cases of Poisoning.** 6th Edition. 3s. 6d.
LEWIS. **Pocket Case Book.** Roan. 3s. 6d.

*** *Catalogues of Mr LEWIS'S Publications post free on application*

LONDON: H. K. LEWIS, 136 GOWER STREET, W.C.
[ESTABLISHED 1844.]

These Courses qualify for Graduation in Medicine and in Science in the UNIVERSITY of EDINBURGH and other UNIVERSITIES; the Royal Colleges of Physicians and Surgeons; the Navy, Army, and Indian Medical Service, and other Medical and Public Boards.

CHEMISTRY.

DR STEVENSON MACADAM, F.R.S.E., &c., conducts Courses of Instruction in Chemistry and its applications to Medicine, Pharmacy, Agriculture and the Industrial Arts, during the Winter, Spring, and Summer Sessions.

SYSTEMATIC LECTURES ON CHEMISTRY. The Lectures commence in October and are delivered daily at 10 A.M. during the Five Months of the Winter Session. These Lectures form a complete course and include Lectures on Technological Chemistry. Tutorial and Class Examinations are held during the Session.

FEE, Five Months' Course, £3, 5s.; For graduation in University of Edinburgh, £4, 4s.

MEDICAL PRACTICAL CHEMISTRY. The Prelections are delivered daily during the Winter, Spring, and Summer Sessions, and the Substances selected for Examination are those with which Medical, Dental, and Pharmaceutical Students are personally called upon to exhibit a practical acquaintance. Hours, 9 A.M. till 5 P.M.

FEE for Three Months, including Apparatus and Re-agents (University, &c.), £3, 3s.

MEDICAL ANALYTICAL CHEMISTRY. The Instructions are conducted daily for the Education of Medical Officers of Health and Pharmaceutical Students in advanced Practical Chemistry, and include the Analyses of Air and other Gases, Waters, Foods, Beverages, and Drugs; the Detection of Poisons in Organic Mixtures; and the Testing of Complex Substances, &c., &c., as required for Degrees in Science including Public Health, and other Examinations. Hours, 9 A.M. till 5 P.M.

FEE, inclusive of Re-agents and Apparatus, £2 per Month or £5 per Session of Three Months.

TECHNICAL ANALYTICAL CHEMISTRY. This Course of Study is arranged for the Instruction of Gentlemen in ordinary Chemical Analyses bearing upon Agriculture, Mining and Manufacturing Industries, and the Prosecution of Researches in Manipulative Chemistry. Hours, 9 A.M. till 5 P.M.

FEE, inclusive of Re-agents and Apparatus, £2 per Month or £5 per Session of Three Months.

CLASS ROOMS, SURGEONS' HALL, NICOLSON STREET.

(Entrance by the Gate of the Royal College of Surgeons).

CHEMISTRY.

These Classes give all the tuition in Chemistry required for the Examinations conducted by the University of Edinburgh for Degrees in Medicine, Science (Agriculture, &c.); the Highland and Agricultural Society; the Royal Agricultural Society, and other Examining Boards, Triple Qualification, &c.

1. LECTURES ON THEORETICAL CHEMISTRY

commencing Wednesday, 1st October—

Nine a.m., New Veterinary College, Leith Walk, Professor IVISON MACADAM, Lecturer.

Ten a.m. Surgeon's Hall, Dr S. MACADAM, Lecturer.

Class Ticket, £3, 5s. For University Graduation, the Fee is £4, 4s. (including Agricultural Lectures).

2. AGRICULTURAL CHEMISTRY.

Mr IVISON MACADAM, F.R.S.E., F.C.S., F.I.C., &c., will commence his Course of Lectures on Wednesday, 7th January 1891, at Two o'clock p.m. The Class will be continued during January, February, and March. Fee, £2, 2s.

3. INSTRUCTIONS IN AGRICULTURAL ANALYSES

are conducted Daily in the Laboratories, Surgeons' Hall, from Nine a.m. to Five p.m. Fee £2 per month, £5 for the three months, or £10 for six months **(apparatus and reagents included)**.

The Laboratories open on Wednesday, 1st October.

4. PRACTICAL CHEMISTRY

as required for Degrees in Medicine and Science.

5. LABORATORY WORK

as required for the Degrees in Science (Public Health, &c.).

Class Rooms, Surgeons' Hall, Nicolson Street.

AND NEW VETERINARY COLLEGE, LEITH WALK.

SCHOOL OF MEDICINE, EDINBURGH.

FOUNDED 1505.

THE LECTURES qualify for the University of Edinburgh and the other Universities; the Royal Colleges of Physicians and Surgeons of Edinburgh, London, and Dublin; the Faculty of Physicians and Surgeons of Glasgow, and the other Medical and Public Boards.

In accordance with the Statutes of the UNIVERSITY OF EDINBURGH, any four out of fifteen qualifying Classes required for GRADUATION may be attended in this School, as well as the Practical Classes of Physiology, Pathology, and Materia Medica. The Regulations require that the Fee for any Class, taken for GRADUATION in EDINBURGH, shall be the same as that for the corresponding Class in the University.

The whole Education required for GRADUATION at the UNIVERSITY OF LONDON may be taken in this School.

SUMMER SESSION, 1891.

On Monday, 4th May, the Lectures were commenced.

ANATOMY,	PRACTICAL ANATOMY, . 9 a.m. till 5 p.m. COURSE OF DEMONSTRATIONS, 9 a.m. & 11 a.m.	Dr J. SYMINGTON (Minto House, Chambers St.).
ANATOMY,	PRACTICAL ANATOMY, . 9 a.m. till 5 p.m. COURSE OF DEMONSTRATIONS, 9 a.m. and 11 a.m.	Mr MACDONALD BROWN (Surgeons' Hall).
CHEMISTRY,	PRACTICAL CHEMISTRY, ANALYTICAL CHEMISTRY, . 9 a.m. till 5 p.m.	Dr STEVENSON MACADAM (Surgeons' Hall).
CHEMISTRY,	PRACTICAL CHEMISTRY, ANALYTICAL CHEMISTRY, . 9 a.m. till 5 p.m.	Mr J. FALCONER KING (Minto Ho., Chambers St.).
CHEMISTRY,	PRACTICAL CHEMISTRY, ANALYTICAL CHEMISTRY, . 9 a.m. till 5 p.m.	Mr IVISON MACADAM (Surgeons' Hall).
CHEMISTRY,	PRACTICAL CHEMISTRY, ANALYTICAL CHEMISTRY, . 9 a.m. till 5 p.m.	Dr DRINKWATER (31 Chambers Street).
CHEMISTRY,	PRACTICAL CHEMISTRY, ANALYTICAL CHEMISTRY, . 9 a.m. till 5 p.m.	Mr J. RYMER PATERSON (11 Chambers Street).
CHEMISTRY,	PRACTICAL CHEMISTRY, ANALYTICAL CHEMISTRY, . 9 a.m. till 5 p.m.	Dr A. P. AITKEN (Royal Veterinary Col., 8 Clyde Street).
CHEMISTRY,	PRACTICAL CHEMISTRY, ANALYTICAL CHEMISTRY, . 9 a.m. till 5 p.m.	Dr READMAN (4 Lindsay Place, Geo. IV. Bridge).
MATERIA MEDICA AND THERAPEUTICS, . . 9 a.m. PRACTICAL MATERIA MEDICA including Practical Pharmacy, . . . 10 a.m. & 2 p.m.,		Dr WILLIAM CRAIG (Surgeons' Hall).
MATERIA MEDICA AND THERAPEUTICS, . . 9 a.m. PRACTICAL MATERIA MEDICA including Practical Pharmacy, ... 10 a.m.		Dr RALPH STOCKMAN (Minto House, Chambers Street).
MIDWIFERY AND DISEASES OF WOMEN, . . 10 a.m.		Dr HALLIDAY CROOM (Minto Ho., Chambers St).
MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN, ... 10 a.m.		Dr DAVID BERRY HART (Surgeons' Hall).
MIDWIFERY & DISEASES OF WOMEN & CHILDREN, 10 a.m.		Dr BARBOUR (Park Place).
MEDICAL JURISPRUDENCE AND PUBLIC HEALTH, 11 a.m.		Dr LITTLEJOHN (Surg. Hall).
ROYAL INFIRMARY, . . . 12 noon.		
CLINICAL MEDICINE (Tues. and Frid.). 12 noon.		Drs CLAUD MUIRHEAD, BRAKENRIDGE, WYLLIE, and AFFLECK. Dr HALLIDAY CROOM (*For Diseases of Women*). (Royal Infirmary).
" " Tutorial Class for Physical Diagnosis.*		
CLINICAL SURGERY (Mondays and Thursdays), 12 noon.		Mr DUNCAN (Roy. Infirm'y).
" " " " "		Mr A. G. MILLER, do.
" " Tutorial Classes for Practical Surgery.*		
PRACTICAL PHYSIOLOGY, . . 10 a.m. till 4 p.m.		Mr JAMES HUNTER (Minto House, Chambers' St.).
PRACTICAL PHYSIOLOGY, at 10 a.m., and other hours.		Dr NOËL PATON (Surgeons' Hall).

* Under the Superintendence of the Lecturers on Clinical Medicine and Surgery.

PRACTICAL PATHOLOGY,	8, 9, 10, and 11 a.m.	Dr ALEXANDER BRUCE (Surgeons' Hall).
PRACTICAL PATHOLOGY, . .	9, 10, and 11 a.m.,	Dr WILLIAM RUSSELL (Minto Ho., Chambers St.)
LARYNGOLOGY AND MEDICAL OPHTHALMOLOGY, and the Uses of Electricity in Medical Treatment and Diagnosis, . .	9 a.m.	Dr JOHN WYLLIE (27 Nicolson Square).
DISEASES OF THE EAR, Tues. and Fri. (with Clinical Instruction at Hospital, 6 Cambridge Street, Lothian Rd., Mon., Thurs., and Sat., 12 noon),	9 a.m.	Dr KIRK DUNCANSON (6 Cambridge Street).
PRACTICAL MEDICINE AND PHYSICAL DIAGNOSIS,	9 a.m.	Dr JAMES (31 Chambers St.).
PRACTICE OF MEDICINE, . . .	8 a.m.	Dr J. O. AFFLECK (Surgeons' Hall).
PRACTICE OF MEDICINE, . . .	9 a.m.	Dr BYROM BRAMWELL (Park Pl.).
PRACTICE OF MEDICINE, . . .	9 a.m.	Dr G. A. GIBSON (Minto House, Chambers St.).
PRACTICE OF MEDICINE, with Clinical Instruction,	9 a.m.	Dr R. W. PHILIP (Dispensary, 13 Bank Street).
BOTANY, ...	9 a.m.	Mr A. N. M'ALPINE (Minto
PRACTICAL BOTANY, ...	10 a.m.	House, Chambers St.).
DISEASES OF THE SKIN, Clinical Instruction on Wednesdays and Saturdays,	10 a.m.	Dr ALLAN JAMIESON (Royal Infirmary).
VACCINATION, with special reference to Public Vaccination in England (Wed. and Sat.),	12 noon and 1 p.m.	Dr HUSBAND (Royal Dispensary).
VACCINATION, with special reference to Public Vaccination in England (Thursdays),	3 p.m.	Dr J. B. BUIST (Western Dispensary).
PRACTICE OF VACCINATION (Mondays), .	4 p.m.	Dr J. B. BUIST (Cowgate Dis.).
NATURAL HISTORY, COURSE OF LECTURES, . .	12 noon	Mr J. ARTHUR THOMSON (Park Place).
NATURAL HISTORY, PRACTICAL CLASS AND LABORATORY WORK, . .		
NATURAL HISTORY, SERIES OF DEMONSTRATIONS . .		
DISEASES OF THE EYE, daily (Clinical Instruction at Royal Infirmary and Edinburgh Eye Dispensary), . .	10 a.m.	Mr GEORGE BERRY (Surgeons' Hall).
INSANITY (Tuesdays and Fridays), with practical instruction in Asylum Wards, .	2 p.m.	Dr J. BATTY TUKE (Surgeons' Hall).
OPERATIVE SURGERY & SURGICAL ANATOMY, .	4 p.m.	Dr C. W. MACGILLIVRAY (Surgeons' Hall).
OPERATIVE SURGERY & SURGICAL ANATOMY, .	8 a.m.	Mr CHAS. W. CATHCART (27 Nicolson Square).
OPERATIVE SURGERY & SURGICAL ANATOMY,	4 p.m.	Mr FRANCIS M. CAIRD (Park Pl.).
OPERATIVE SURGERY & SURGICAL ANATOMY,	8 a.m.	Mr HODSDON (Minto Ho., Chambers Street.)
CLINICAL MIDWIFERY, at 9.30 a.m. Daily, at Royal Maternity Hospital, during Autumn,		Dr HALLIDAY CROOM (Minto Ho., Chambers St.).
PRACTICAL MIDWIFERY AND CLINICAL GYNÆCOLOGY (Fridays), . .	1 p.m.	Dr PETER YOUNG (Royal Dispensary).
SYSTEMATIC GYNÆCOLOGY (Tuesdays and Fridays),	10 a.m.	Dr BREWIS (27 Nicolson Sq.).
CLINICAL GYNÆCOLOGY (Mondays and Thursdays),	4.30 p.m.	Dr BREWIS (New Town Dis., and 6 Cambridge Street).
DISEASES OF CHILDREN, Hospital Cliniques,	Sat. 11 a.m.	Mr JOSEPH BELL and Dr BURN MURDOCH (Sick Children's Hospital).
DISEASES OF INFANCY AND CHILDHOOD (Course of 50 Lectures, including Clinical Demonstrations at the Cowgate Disp.	3 p.m. daily	Dr J. W. BALLANTYNE (Minto Ho., Chambers St).
DISEASES OF INFANCY AND CHILDHOOD, Clinical Instruction, Mondays, Wednesdays, and Thursdays, . .	5 p.m.	Dr JOHN THOMSON (31 Chambers St. and New Town Dispensary).
DISEASES OF CHILDREN, Mondays and Thursdays (with Clinical Instruction in Sick Children's Hosp., Tue. & Fri., 11 a.m.)	10 a.m.	Dr MELVILLE DUNLOP (Oddfellows' Hall, Forrest Road).
DISEASES OF THE TROPICS AND CLIMATOLOGY (Mondays, Wednesdays, and Fridays),	5 p.m.	Dr R. W. FELKIN (Park Place).
DISEASES OF THE CHEST, Clinical Course, (Mondays and Fridays), . .	4 to 5.30 p.m.	Dr R. W. PHILIP (Consump. Dispensary, 13 Bank St.).

	Practical Anatomy,	9 a.m. till 5 p.m.	Dr Alfred W. Hughes (Surgeon Square).
	Practical Anatomy,	9 a.m. till 5 p.m.	Dr W. Keiller (30 Chambers Street).
	Practical Chemistry,	2 p.m.	Mr Ivison Macadam (30 Chambers Street).
	Practical Chemistry,		Dr A. P. Aitken (Surgeon Sq.).
	Materia Medica,	3 p.m.	Dr Wm. Craig (30 Chambers St.).
	Practical Materia Medica, including Practical Pharmacy,	4 p.m.	Dr W. Craig (30 Chambers Street).
	Operative Surgery and Surgical Anatomy,		Dr Alfred W. Hughes (Surgeon Square).
	Materia Medica,*		Dr Ralph Stockman (Surgeon Sq.).
Classes for Women.	Midwifery and Diseases of Women,		Dr Sophia Jex-Blake (Surgeon Sq.).
	Midwifery and Diseases of Women,	4 p.m.	Dr J. W. Ballantyne (30 Chambers Street).
	Medical Jurisprudence and Public Health,		Dr Littlejohn (Surgeon Square).
	Medical Jurisprudence and Public Health,	4 p.m.	Mr Harvey Littlejohn (30 Chambers Street).
	Leith Hospital,	3 to 5 p.m.	Dr Finlay (Leith Hospital).
	Practical Physiology,		Mr James Hunter (30 Chambers St.).
	Practical Physiology,		Dr Noel Paton (Surgeon Square).
	Practical Pathology,		Dr Alex. Bruce (Surgeon Sq.).
	Practical Pathology,		Dr William Russell (30 Chambers St.).
	Diseases of Children,		Dr John Thomson (31 Chambers St.).
	Botany,	9 a.m.	Mr Robert Turnbull (30 Chambers Street).
	Practical Botany,	10 a.m.	
	Ophthalmology,		Mr George A. Berry (Surgeon Square).
	Ophthalmology,		Mr George A. Berry (30 Chambers St.).
	Insanity,		Dr J. Batty Tuke (30 Chambers St.).

* Not till Summer Session 1892.

WINTER SESSION, 1891-92.

On Thursday, 1st October, the Practical Anatomy Rooms and Chemical Laboratories will be opened. *On Tuesday, 13th October*, the Lectures will be commenced.

Anatomy,	Practical Anatomy,	9 a.m. till 5 p.m.	Dr J. Symington (Minto House, Chambers St.).
	Course of Lectures,	1 p.m.	
	Course of Demonstrations,	4 p.m.	
Anatomy,	Practical Anatomy,	9 a.m. till 5 p.m.	Mr Macdonald Brown (Surgeons' Hall).
	Course of Lectures,	9 a.m.	
	Course of Demonstrations,	4 p.m.	
Chemistry,	Lectures,	10 a.m.	Dr Stevenson Macadam (Surgeons' Hall).
	Practical Chemistry,	9 a.m. till	
	Analytical Chemistry,	5 p.m.	
Chemistry,	Lectures,	10 a.m.	Mr J. Falconer King (Minto Ho., Chambers St.).
	Practical Chemistry,	9 a.m. till	
	Analytical Chemistry,	5 p.m.	
Chemistry,	Lectures,	9 a.m.	Mr Ivison Macadam (New Veterinary College, Leith Wk. and Surgeons' Hall).
	Practical Chemistry,	9 a.m. till	
	Analytical Chemistry,	5 p.m.	
Chemistry,	Lectures,	10 a.m.	Dr Drinkwater (31 Chambers Street).
	Practical Chemistry,	9 a.m. till	
	Analytical Chemistry,	5 p.m.	
Chemistry,	Lectures,	10 a.m.	Mr J. Rymer Paterson (11 Chambers Street).
	Practical Chemistry,	9 a.m. till	
	Analytical Chemistry,	5 p.m.	
Chemistry,	Lectures,	10 a.m.	Dr A. P. Aitken (Royal Veterinary College, 8 Clyde Street).
	Practical Chemistry,	9 a.m. till	
	Analytical Chemistry,	5 p.m.	
Chemistry,	Practical Chemistry,	9 a.m. till 5 p.m.	Dr Readman (4 Lindsay Pl., George IV. Bridge).
	Analytical Chemistry,		
Practice of Physic,		9 a.m.	Dr John Wyllie (27 Nicolson Square).
Practice of Physic,		9 a.m.	Dr James (31 Chambers Street).

Practice of Physic,	9 a.m.	Dr J. O. Affleck (Surgeons' Hall).
Practice of Physic,	9 a.m.	Dr Byrom Bramwell (Park Place).
Practice of Physic,	9 a.m.	Dr G. A. Gibson (Minto Ho., Chambers St.).
Practice of Physic, with Clinical Demonstrations,	9 a.m.	Dr R. W. Philip (New North Hall).
Surgery,	10 a.m.	Dr C. W. MacGillivray (Surgeons' Hall).
Surgery,	10 a.m.	Mr Charles W. Cathcart (27 Nicolson Square).
Surgery,	10 a.m.	Mr Francis M. Caird (Park Pl.).
Surgery,	10 a.m.	Mr Hodsdon (Minto Ho., Chambers Street).
Midwifery and Diseases of Women and Children,	11 a.m.	Dr Milne Murray (Park Place).
Midwifery and Diseases of Women,	11 a.m.	Dr Matheson (Marshall Street).
Institutes of Medicine,	11 a.m.	Mr James Hunter (Minto House Chambers Street).
Practical Physiology,	10 a.m. or other hours,	
Institutes of Medicine,	11 a.m.	Dr Noël Paton (Surgeons' Hall).
Practical Physiology,	at suitable hours.	
General Pathology,	3 p.m.	Dr Alex. Bruce (Surgeons' Hall).
General Pathology and Morbid Anatomy.	3 p.m.	Dr Wm. Russell (Minto House, Chambers Street).
Practical Pathology,	9 a.m.	
Royal Infirmary,	12 noon.	
Clinical Medicine (Tues. and Fri.),	12 noon.	Drs Claud Muirhead, Brakenridge, Wyllie, and Affleck. Dr Halliday Croom (*For Diseases of Women*). (Roy. Infirm'y).
—— Tutorial Class for Physical Diagnosis,*		
Clinical Surgery (Mon. and Thur.),	12 noon.	Mr Duncan (Royal Infirmary).
Clinical Surgery (Mon. and Thur.),	12 noon.	Mr A. G. Miller (Roy. Infirmary).
—— Tutorial Classes for Practical Surgery.*		
Medical Jurisprudence & Public Health,	2 p.m.	Dr Littlejohn (Surgeons' Hall).
Materia Medica and Therapeutics,	2 p.m.	Dr William Craig (Surgeons' Hall).
Practical Materia Medica, including Practical Pharmacy,	9 a.m. and 3 p.m.	
Materia Medica and Therapeutics,	2 p.m.	Dr Ralph Stockman (Minto Ho., Chambers Street).
Diseases of the Ear, Tuesdays and Frids. (with Clinical Instruction at Hospital, 6 Cambridge St., Lothian Rd., Mon., Thurs., and Sat., 12 noon), commencing 11 Nov.,	9 a.m.	Dr Kirk Duncanson (6 Cambridge Street).
Botany,	9 a.m.	Mr A. N. M'Alpine (Minto Ho. Chambers Street).
Practical Botany,	10 a.m.	
Diseases of the Ear and Throat, including Laryngoscopic and Rhinoscopic Diagnosis and Treatment—30 Lectures, daily, and Clinical Instruction at Royal Infirmary, beginning 11th Nov.,	4 p.m.	Dr P. M'Bride (Surgeons' Hall).
Diseases of the Skin, Clinical Instruction on Weds. and Sats.,	10 a.m.	Dr Allan Jamieson (Royal Infirmary).
Diseases of Children, Clinical Lectures, Three Months' Course, commencing November,	Wed. 10 a.m. Sat. 9 a.m.	Mr Joseph Bell and Dr Burn Murdoch (Sick Children's Hos.).
Diseases of Infancy and Childhood (Course of 50 Lectures, including Clinical Demonstrations at Cowgate Disp.),	3 p.m. daily.	Dr J. W. Ballantyne (Minto Ho., Chambers Street.
Diseases of Infancy and Childhood, Clinical Course,	10.30 a.m.	Dr John Thomson (31 Chambers St. and New Town Dispensary).
Vaccination, with special reference to Public Vaccination in England (Wednesdays and Saturdays),	12 noon and 1 p.m.	Dr Husband (Royal Dispensary).
Vaccination, with special reference to Public Vaccination in England (Thursdays),	3 p.m.	Dr J. B. Buist (West. Dispensary.)
Practice of Vaccination, Mondays,	4 p.m.	Dr J. B. Buist (Cowgate Dispensary).

* Under the superintendence of the Lecturers on Clinical Medicine and Surgery.

Natural History,	Course of Lectures, . Practical Class and Laboratory Work, . . . Series of Demonstrations. . .	12 noon	Mr J. Arthur Thomson (Park Place).
Diseases of the Eye, 30 Lectures, beginning in November, ...			Mr George Berry (Edinburgh Eye Dispensary).
Systematic Gynæcology, . . .		5 p.m.	Dr Halliday Croom (Minto Ho., Chambers Street).
Practical Midwifery and Clinical Gynæcology (Fridays), . . .		1 p.m.	Dr Peter Young (Royal Dispensary).
Clinical Midwifery (daily at suitable hours, February to May), ...			Dr Berry Hart (Royal Maternity Hospital).
Clinical Gynæcology, Mondays and Thursdays, . . .		4.30 p.m.	Dr Brewis (New Town Dispensary and 6 Cambridge Street.
Diseases of the Tropics and Climatology (Mon., Wed., and Fri.).		5 p.m.	Dr R. W. Felkin (Park Place).
Diseases of the Chest, Clinical Course (Mondays and Fridays),		4 to 5.30 p.m.	Dr R. W. Philip (Consumption Dispensary, 13 Bank Street).
Classes for Women.	Practical Anatomy,	9 a.m. to 5 p.m.	Dr Alfred W. Hughes (Surgeon Square).
	Lectures and Demonstrations, .	9 a.m.	
	Practical Anatomy,	9 a.m. to 5 p.m.	Dr W. Keiller (10 Chambers Street).
	Lectures and Demonstrations, .	9 a.m.	
	Chemistry—Lectures,	11 a.m.	Mr Ivison Macadam (30 Chambers Street).
	Chemistry—Lectures,	11 a.m.	Dr A. P. Aitken (Surgeon Square).
	Practice of Physic, . .		Dr James (Surgeon Square).
	Practice of Physic, . .		Dr R. W. Philip (30 Chambers Street).
	Surgery, ...		Mr Charles W. Cathcart (Surgeon Square).
	Surgery, ...		Mr Hodsdon (30 Chambers Street).
	Institutes of Medicine, . . Practical Physiology	. .	Mr James Hunter (30 Chambers Street).
	Institutes of Medicine, . . Practical Physiology	. .	Dr Noël Paton (Surgeon Square).
	Clinical Surgery, (Mon. and Thurs.),	3 p.m.	Dr W. Finlay (Leith Hospital).
	Diseases of Children . .		Dr John Thomson (31 Chambers Street).
	Vaccination, . . .		Dr Husband (Surgeon Square).
	Diseases of the Tropics and Climatology, . .	. .	Dr R. W. Felkin (31 Chambers Street).
	Practical Gynæcology, .	.	Dr Brewis (6 Cambridge Street).

Fees.—For a *First* Course of Lectures, £3, 5s.; for a *Second*, £2, 4s.; *Perpetual*, £5, 5s. —To those who have already attended a *First* Course in Edinburgh the *Perpetual* Fee is £2, 4s. Practical Anatomy (Six Months' Course), £3, 3s.; Course of Demonstrations, £2, 2s.; *Perpetual*, £4, 4s. Practical Anatomy, with Course of Demonstrations, £4, 4s. Practical Chemistry, £3, 3s.; Analytical Chemistry, £2 a Month, £5 for Three Months, or £10 for Six Months. Practical Materia Medica, including Practical Pharmacy, and Operative Surgery, *each* £3, 3s.; Diseases of the Ear, Diseases of the Skin, Diseases of Children, Diseases of the Tropics and Climatology, and Diseases of the Chest, *each* £2, 2s. Vaccination, £1, 1s. For *SUMMER COURSES* of Clinical Surgery and Clinical Medicine, *each* £2, 4s.; Practical Anatomy, including Anatomical Demonstrations, and Practical Medicine and Medical Diagnosis, *each* £2, 2s.; Vaccination and Insanity, *each* £1, 1s.

The *minimum cost* of the Education in this School of Medicine for the **Triple Qualification** of Physician and Surgeon from the **Royal Colleges of Physicians and Surgeons of Edinburgh and the Faculty of Physicians and Surgeons of Glasgow**, including the Fees for the Joint Examinations, is £100, which is payable by yearly instalments during the period of Study.

*** *The appointment of Resident Physician to the wards in the Royal Infirmary under the care of the Ordinary Physicians is open only to those members of their clinical class who have clerked in their wards for at least six months. Six Residentships are appointed during the year, for a period of six months each.*

STEVENSON MACADAM, *Secretary.*

GILBERT J. FRENCH,

31 MANCHESTER ROAD,

BOLTON, LANCASHIRE,

Manufacturer of Church-Furniture, &c.

ALTAR CLOTHS.
CARPETS.
COMMUNION LINEN.
SURPLICES.
CASSOCKS.
GOWNS.
HOODS.
STOLES.
RUGS and CUSHIONS for Seats and Kneelers.

ALMONIERS.
ALMS BOXES.
ALMS BASINS.
CHAIRS.
DESKS.
LECTERNS.
FAULD STOOLS.
HASSOCKS
&c. &c.

Ecclesiastical, Heraldic, and Emblematic Flags and Banners.

Parcels delivered free at all principal Railway Stations.

A CATALOGUE BY POST ON APPLICATION TO

GILBERT J. FRENCH.

Gratis and Post Free to all parts of the World.

E. & F. N. SPON'S CATALOGUE OF BOOKS

Relating to Architecture and Building, Civil and Mechanical Engineering, Electricity, Electric Telegraph, Electric Light, Mining, Sanitation, Arts, Trades, and Manufactures.

LONDON: E. & F. N. SPON, 125 STRAND.

HIGHER LATIN AND GREEK.

MR. A. OGG,

Classical Tutor,

ALBERT HALL BUILDINGS,

PREPARES FOR

THE THREE YEARS' COURSE, THE ENGLSH PUBLIC SCHOOLS, THE UNIVERSITIES, ETC.

SPECIAL ATTENTION GIVEN TO LATIN AND GREEK COMPOSITION.

Terms on Application.

EDINBURGH MERCHANT COMPANY SCHOOLS.

ESTABLISHED BY AUTHORITY OF PARLIAMENT.

FRANCIS BLACK, Esq., 6 North Bridge, Master of the Merchant Company and Preses of the Board of Governors of the undermentioned Educational Institutions.

I.—For Young Ladies. The Edinburgh Ladies' College, Queen Street. Head Master—DAVID PRYDE, M.A., LL.D., F.R.S.E.

II.—For Boys. George Watson's College, The Meadows and Archibald Place. Head Master—GEORGE OGILVIE, M.A., LL.D.

III.—For Young Ladies. George Watson's Ladies' College, George Square. Head Master—ALEXANDER THOMSON.

IV.—For Boys. Daniel Stewart's College, The Dean. Head Master—W. WALLACE DUNLOP, M.A.

V.—For Boys and Girls. James Gillespie's Schools, Gillespie Crescent. Head Master—WILLIAM JENKINS, M.A., F.E.I.S.

In the four first Schools Education of the highest class is provided, and in the last a sound English Education at moderate fees is given.

Upwards of £31,000 is paid yearly for Salaries in these schools, so as to secure Teachers of the highest position.

Numerous Bursaries and other advantages are connected with the Schools.

Copies of the Prospectus, containing full details, will be obtained on application to Mr ALEX. HERON, S.S.C., Secretary, at the undernoted address.

THE MERCHANTS' HALL,
14 HANOVER STREET, EDINBURGH.

MEDICAL PRELIMINARY EXAMINATIONS.

MR ALEX. B. THOMSON, M.A., conducts classes for Students preparing for the Medical Preliminary Examination.

The **Summer Course** commences at the beginning of May, the **Autumn Course** at the beginning of September, and the **Winter Course** in the middle of October. A Special Class is formed for Ladies.

Mr THOMSON has had, for more than twenty years, constant experience in preparing Candidates for the Medical Preliminary, M.A., Army, Civil Service, London University, and other Examinations.

Special Classes are also formed for Law Students preparing for the General Knowledge Examination.

Mr THOMSON also reads with Students privately.

PROSPECTUS ON APPLICATION

36 LAURISTON PLACE.

THE MEDICAL COLLEGE FOR WOMEN,
30 CHAMBERS STREET, EDINBURGH.

THIS COLLEGE was founded and is conducted by the Scottish Association for the Medical Education of Women, with the special object of affording to Lady Students exactly the same facilities for medical study as are offered to Male Students in the School of Medicine, Edinburgh.

The arrangements for Teaching and the Fees charged are similar to those of the School of Medicine; so that, generally speaking, the regulations of that School may be considered as applicable to the Students of the College.

All the Teachers in the College are duly qualified Lecturers of the School of Medicine.

The College affords to Ladies desirous of studying Medicine an opportunity of prosecuting a complete course of Medical Study; or of attending any individual Class or Classes.

All the Classes are open to any Lady who chooses to attend them.

Intending Students may obtain Prospectuses, and all information on application to the Secretary of the Association, Mr ALEX. T. HUNTER, C.A., 51 Hanover Street.

SECOND PROFESSIONAL EXAMINATION.

TUTORIAL CLASSES
IN ALL SUBJECTS BY

J. RYLAND WHITAKER,

Senior Demonstrator of Anatomy, School of Medicine.

CLASS ROOMS, 30 CHAMBERS STREET.

PRELIMINARY EXAMINATIONS.

Mr J. C. YOUNG, M.A. Oxon., late Senior Classical Master in the Edinburgh Institution, prepares pupils for the Universities, the Preliminary Medical, Military, and Civil Service Examinations.

APPLY AT 18 FETTES ROW.

PRINCIPAL SIR ALEX. GRANT'S

History of the University of Edinburgh.

2 vols. large 8vo, with 28 Engravings and Portraits, published at £1, 12s., now offered to Students at 10s. 6d., or free by post for 11s. 6d.

JAMES THIN, PUBLISHER TO THE UNIVERSITY.

HERIOT-WATT COLLEGE,
EDINBURGH.

Governors—THE GOVERNORS OF GEORGE HERIOT'S TRUST.
Chairman—THE RIGHT HON. THE LORD PROVOST.
Chairman of Heriot-Watt College Committee—THE HON. LORD SHAND.

Principal—F. GRANT OGILVIE, M.A., B.Sc.
Professor of Chemistry—W. H. PERKIN, JUNR., PH.D., F.R.S.
Professor of Mechanical Engineering—RICHARD STANFIELD, A.R.S.M.
Professor of Physics and Electrical Engineering—J. R. MULLINEUX WALMSLEY, D.Sc.

AND UPWARDS OF THIRTY LECTURERS ON SPECIAL SUBJECTS.

SUBJECTS OF INSTRUCTION.

I. TECHNICAL DEPARTMENT.

Arithmetic and Mathematics.
Theoretical Mechanics.
Sound, Light, and Heat.
Electricity and Magnetism.
Electrical Engineering.
Applied Mechanics.
Graphical Calculation.
Steam and the Steam Engine.
Mechanical Engineering.
Machine Construction and Drawing.
Geometrical Drawing.
Building Construction and Drawing.
Civil Engineering.
Surface and Quantity Surveying.

Chemistry:—GENERAL, INORGANIC, AND ORGANIC (each Class both Theoretical and Practical).

Art:—FREEHAND AND MODEL DRAWING, PERSPECTIVE, SHADING FROM THE CAST, DESIGN, ORNAMENT, AND DECORATION.

Physiography.
Geology.
Botany.
Biology.
Physiology.
Hygiene.
Agriculture.
Watch and Clockmaking.
Plumber's Work.
Carpentry and Joinery.
Masonry and Brickwork.
Carriage Building.
Printing.
Photography.

There are fully equipped Physical, Chemical, and Mechanical and Electrical Engineering Laboratories, and Workshops for working in wood and iron.

II. LITERARY AND COMMERCIAL DEPARTMENT.

English Language and Composition.
English Literature.
French.
German.
Spanish.
Latin and Greek.
Elocution.
Shorthand.
History.
Economics.
Industrial and Commercial Geography.
Practice of Commerce.
Writing and Book-keeping.
Theory of Music.

EVENING CLASSES.—The Class in each subject meets on one or two evenings a week. The Session commences in October. Matriculation Fee, 1s. Class Fees in most cases, 5s. each class. Full particulars are given in the *Calendar*, published early in August.

DAY CLASSES.—Session from October to June. Matriculation Fee, 5s.; Class Fees, £1, 1s. to £4, 4s. Full particulars will be found in the *Calendar*, which will be published early in August.

Fettes College, near Edinburgh.

GOVERNORS.

The Right Hon. JOHN INGLIS of Glencorse, D.C.L., LL.D., Lord Justice-General, *Chairman.*
Sir THOMAS CLARK, Bart., late Lord Provost of Edinburgh.
Sir WILLIAM MUIR, K.C.S.I., D.C.L., LL.D., Principal of the University of Edinburgh.
J. TURNBULL SMITH, Esq., C.A., Treasurer of the Merchant Company.
The Right Hon. J. B. BALFOUR, Q.C., LL.D., M.P., Dean of the Faculty of Advocates.
CHARLES B. LOGAN, Esq., Deputy-Keeper of the Signet.
The Very Rev. JAMES CAMERON LEES, D.D.
The Hon. BOUVERIE FRANCIS PRIMROSE, C.B.
ROBERT DUNDAS, Esq. of Arniston.
The Hon. LORD KINNEAR, LL.D.

HEAD-MASTER.

Rev. W. A. HEARD, M.A.,
Late Scholar of Trinity College, Oxford; and for some time one of the Assistant-Masters at Westminster School.

ASSISTANT-MASTERS.

A. S. FORSTER, M.A., Late Scholar of New College, Oxford.
D. W. TANQUERAY, M.A., Late Scholar of Magdalene Coll., Camb.
J. S. YEO, M.A., Late Fellow of St John's College, Cambridge. (Mathematics and Natural Science.)
F. J. R. HENDY, B.A., Late Scholar of Lincoln College, Oxford.
G. C. HARRISON, M.A., Exhibitioner of Oriel College, Oxford, formerly Assistant-Master at Clifton College.
H. F. M. SIMPSON, M.A., F.S.A. Scot., Late Scholar of Pembroke College, Cambridge.
K. P. WILSON, B.A., Late Scholar of Pembroke College, Cambridge.
J. E. BARKWORTH, M.A., Mus. Bac., Late Scholar of University College, Oxford.
A. S. RAMSEY, B.A., Scholar of Magdalene College, Cambridge (Mathematics and Natural Science).
G. H. LENOX-CONYNGHAM, M.A., Scholar of Caius Coll., Camb.
H. O. AUDEN, B.A., Scholar of Christ's College, Cambridge.
E. HAWKINS, M.A., Merton College, Oxford. (Chemistry.)
B. KROUPA. (Drawing, Painting, and German.)
O. DELFS. (German and French.)
F. F. ROGET. (French.)

Pianoforte.—A. W. DACE, A.R.A.M. Violin.—W. DALY.

Gymnastics.—Sergeant ADAM.

Parents or Guardians will receive full information as to all the College arrangements, and as to the College Scholarships and Exhibitions to Universities, or applying to the Head-Master.

Edinburgh, *May* 1891.

THE

UNIVERSITY PREPARATORY INSTITUTE,

37 CHAMBERS STREET, EDINBURGH.

PRINCIPAL—MURDO MACLEOD, High Prizeman, with First-Class Honours, Latin (1st and 11th), Greek (2nd), Logic (7th), Moral Philosophy (13th), and Natural Philosophy, including Physics, Dynamics, and Astronomy (6th); with Seventeen Years' Teaching Experience.

Strong Staff of Graduates, LL.D.'s., Specialists, and other experienced Tutors.

ORAL AND CORRESPONDENCE CLASSES

TO PREPARE FOR

1. THE MEDICAL PRELIMINARY.
2. The Scotch and English Universities Entrance.
3. The M.A. Degree, The LL.A. (Women's Diploma).
4. Bursary and Scholarship Competitions, University Locals, London Matriculation, General Knowledge, and other Public Examinations.
5. The Army, India, and Home Civil Service.

About 2000 Students of the Institute have passed at the various Public Examinations since 1879.

Over 200 passes during the past year including, one Student who, at Edinburgh University Entrance Examination last October took the First Place in Mathematics, and the Fifth Place in the General Honours List; and qualified for Bursaries from the University and the Town Council, amounting to nearly £200.

References to University Professors, Professional, and other gentlemen of position, including parents and guardians of pupils.

Prospectuses Free.

THE ST ANDREWS LL.A. GUIDE, 6d.

GRAPHED TRANSLATION OF SWEET'S ANGLO SAXON READER, 12s.

BONUS YEAR

DIVISION OF SURPLUS FUNDS

A.D. 1823 FUNDS £2,500,000. A.D. 1823

INCOME £325,000.

MODERATE PREMIUMS · NON-FORFEITABLE POLICIES

INCREASING BONUSES · WORLD-WIDE POLICIES

THE

EDINBURGH

LIFE ASSURANCE

COMPANY

EDINBURGH 22 GEORGE STREET.
LONDON 11 KING WILLIAM ST E.C.

POLICIES ISSUED
BEFORE 31ST MARCH 1892
WILL PARTICIPATE.

THE

EDINBURGH UNIVERSITY CALENDAR

1891-92.

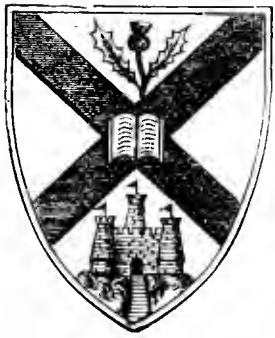
P.
Univ.Cal.
E

THE

EDINBURGH

University Calendar

1891-92



EDINBURGH
Printed and Published for the University
BY JAMES THIN, 55 SOUTH BRIDGE
SOLD BY ALL BOOKSELLERS.
MDCCCXCI.

Turnbull & Spears, Printers, Edinburgh.

13678
18|6|91
6

PREFACE.

THE EDINBURGH UNIVERSITY CALENDAR, *published annually in May by authority of the Senatus Academicus, contains Synopses of the Courses of Lectures delivered by the Professors and Lecturers; the Class Prize Lists; the Regulations and Subjects of Examination for Degrees in Arts, Divinity, Law, Medicine, and Science; the Questions proposed to Candidates for Degrees, &c.; the Annual Graduation Lists; the Bursaries, Scholarships, Fellowships, and other Endowments of the University; Benefactions*[1] *to the University; the Regulations for the Schoolmaster's Diploma and for the Certificate of Literate in Arts; the Regulations for University Certificates in Arts for Women; and a statement of the Annual Income and Expenditure of the University.*

[1] A full list of the chief Benefactors, with the purposes of their benefactions, is given at pages 549-60.

The CALENDAR *is Published by* JAMES THIN, *Edinburgh, and may be had through any Bookseller.* (*Price* 3*s.*; *by Post* 3*s.* 6*d.*)

The List of Members of the GENERAL COUNCIL, *with their addresses, is sold by the same Publisher.* (*Price* 1*s.*, *by post* 1*s.* 2*d.*)

UNIVERSITY OF EDINBURGH,
25*th May* 1891.

Contents.

	PAGE
THE CALENDAR	xi-xxv
CALENDAR FOR 1892-93	xxvi
NAMES AND ADDRESSES OF THE PRINCIPAL AND PROFESSORS	xxvii
NAMES AND ADDRESSES OF PROFESSORS EMERITI AND RESIGNED	xxviii
UNIVERSITY OFFICERS	1-8
THE UNIVERSITY—	
Constitution	9
Chancellor	11
Vice-Chancellor	11
Rector	11
Representative in Parliament	12
University Court	12
University Committee of Privy Council	17
Curators of Patronage	17
Representative in General Medical Council	18
Principal	18
Senatus Academicus	19
Faculties	20
Faculty of Arts	20
Faculty of Divinity	23
Faculty of Law	24
Faculty of Medicine	25
Assistants to Professors	27
General Council of the University	28
Students' Representative Council	30
Matriculation	30
Sponsio Academica	31
Five Shillings University Entrance Fee for Non-Matriculated Students	31
Discipline	32
University Examiners for Degrees	32
Graduation Ceremonials; Precedence	34
Academic Costume	34

PAGE

REGULATIONS REGARDING—
(1) Absence of Professors 35
(2) Absence of Examiners 36
(3) Applications for Examinerships . . . 37
(4) Opening of New Classes 37
(5) Recognition of Extra-Academical Teachers . . 37
UNIVERSITY BUILDINGS 40
(1) University (Old Building) 40
Dome 44
(2) University New Buildings 44
M'Ewan Hall 46
(3) Reid School of Music 48
UNIVERSITY LIBRARY 49
Librarians 49
Reading Rooms 58
THEOLOGICAL LIBRARY 60
PORTRAITS AND BUSTS 61
TORRIE FINE ART COLLECTION 61
MUSEUMS 62
ROYAL BOTANIC GARDEN 65

I. FACULTY OF ARTS.

PROGRAMME OF CLASSES, LABORATORIES, &c. . . 69
MATRICULATION FEES, &c. 73
CURRICULUM AND ORDER OF STUDY RECOMMENDED . 74
COURSES OF LECTURES 75
Gifford Lectures on Natural Theology . . . 102
Lectures on Forestry 102
Steven Lectures on Agricultural Entomology . . 103
REGULATIONS FOR GRADUATION 105
Honours, Regulations as to 107
Curriculum of Three Sessions 109
Pass Examinations, Programme for 1891-92 . . 110
Honours, Programme for 1892 115
Sponsio Academica 117
GRADUATES IN ARTS—HONOUR LISTS, 1887-1891 . . 118
Graduates in Arts, 1890-91 119
REGULATIONS FOR SCHOOLMASTER'S DIPLOMA . . 120
REGULATIONS FOR CERTIFICATE OF LITERATE IN ARTS (L.A.) 122
RESULT OF ARTS ENTRANCE EXAM., Oct. 1890 . . 123
RESULT OF COMPETITIVE EXAM. FOR BURSARIES, October 1890 124
CLASS PRIZE LISTS, 1890-91 126

PAGE

EXAMINATION PAPERS FOR DEGREES IN 1890-91 . . 140
Examin. Papers for a Curric. of Three Sessions . . 140
Examination Papers for M.A. 150
Do. Honours 175
BURSARIES, LIST OF 193
UNIVERSITY PRIZES 207
SCHOLARSHIPS 209
FELLOWSHIPS, &c. 223
VACANT FELLOWSHIPS, SCHOLARSHIPS, PRIZES, AND BURSARIES, 1891-92 226

II. FACULTY OF DIVINITY.

PROGRAMME OF CLASSES, &c. 237
CURRICULUM FOR MINISTRY IN THE CHURCH OF SCOTLAND 238
COURSES OF LECTURES 240
CLASS PRIZE LISTS 244
REGULATIONS FOR GRADUATION IN DIVINITY . . 246
EXAMINATION PAPERS FOR DEGREE OF B.D. . . 249
GRADUATES IN DIVINITY (B.D.), 1890-91 . . . 267
HONORARY DEGREE OF DOCTOR OF DIVINITY . . 267
BURSARIES, PRIZES, SCHOLARSHIPS, &c. . . . 268
VACANT BURSARIES, &c., 1891-92 278

III. FACULTY OF LAW.

PROGRAMME OF CLASSES, &c. 287
ORDER OF STUDY 288
COURSES OF LECTURES, &c. 288
Lectureship on Procedure 293
CLASS PRIZE LISTS 294
REGULATIONS FOR GRADUATION 297
Degree of Bachelor of Laws 297
Degree of Bachelor of Law 298
Subjects of Examination 300
Dates of Examinations 301
PRELIMINARY EXAMINATION PAPERS IN FRENCH FOR B.L. 302
EXAM. PAPERS FOR LL.B. AND B.L. 306
LIST OF LL.B. 314
,, B.L. 315
DEGREE OF DOCTOR OF LAWS; LIST OF HON. GRADUATES . 315
BURSARIES 317
SCHOLARSHIPS, &c. 319
FORENSIC PRIZE 321
SCHOLARSHIPS, BURSARIES, PRIZES, &c., OPEN IN 1891-92 . 321

IV. FACULTY OF MEDICINE.

	PAGE
PROGRAMME OF CLASSES, &c.	327
LABORATORIES	330
ORDER OF STUDY RECOMMENDED	332
COURSES OF LECTURES	333
Lectures on Mental Diseases	350
Lectures on Diseases of the Eye	351
Clinical Instruction in Diseases of Children	351
Lectures on Comparative Embryology	352
REGULATIONS FOR GRADUATION	353
Statutes of the University as to Graduation in Medicine	353
Period and Course of Professional Study	354
Professional Examinations	358
Regulations for M.D.	360
Preliminary Examination in General Education	361
List of Examinations exempting from Preliminary Examinations at this University	366
Registration of Students of Medicine	368
Matriculation of Students	368
Regulations as to Class Examinations	369
Certificates of Attendance on Classes	369
Outline of Subjects for First Professional Examination	370
Honours at Professional Examinations	371
Vaccination—Regulation as to	372
Sponsio Academica in Medicine	372
Fees for Graduation	372
Dates of Examinations	373
Extra-Academical Teachers recognised by the University	375
Rights of the Medical Graduates of Scotland	378
Gold Medallists (M.D.)	379
M.D., 1890-91	380
Graduates (M.B., C.M.) with Honours	383
List of Graduates (M.B., C.M.), 1890-91	384
CLASS PRIZE LISTS	387
PRELIMINARY EXAMINATION PAPERS FOR DEGREES IN MEDICINE AND SCIENCE	411
PROFESSIONAL EXAMINATION PAPERS	433
FELLOWSHIPS, &c.	442
SCHOLARSHIPS	443
BURSARIES	449
PRIZES	452
VACANT FELLOWSHIP, SCHOLARSHIPS, BURSARIES, AND PRIZES, 1891-92	457

V. GRADUATION IN SCIENCE.

	PAGE
Programme of Classes, &c.	461
Laboratories	465
Regulations for Graduation	466
A. Mental Science (Doctorate only)	467
B. Philology (Doctorate only)	468
C. Mathematical, Physical, and Natural Sciences	470
Examinations	472
Outline of Subjects of Examinations	474
D. Engineering	481
Outline of Subjects of Examinations	481
E. Public Health	484
Schedules of the Subjects of Examinations	485
F. Agriculture (Degree of Bachelor only)	488
Outline of Subjects of Examination	489
Fees	493
Dates of Examinations in Science	494
Examination Questions for B.Sc. and D.Sc.	497
List of D.Sc.	527
Graduates in Science, 1890-91	528
Fellowship and Scholarships, &c.	530
Fellowship, Scholarships, &c., open in 1891-92	533

Deeds of New Foundation, &c.	536
Benefactors of the University	549
Bequests and Donations in 1890-91	559
Abstract of Accounts of the University, 1889-90	561
Annual Salaries of Principal and Professors	561
Statement of Capital	563
Income and Expenditure of the University for 1889-90	567
University Court—Abstract of Proceedings of, 1890-91	573

APPENDIX.

I. University Local Examinations	1
II. University Certificates in Arts for Women in Literature, Philosophy, and Science	2
III. University Lecture Extension Association	8
IV. Civil Service of India	9
V. Examination of Candidates for the Army	10
VI. Examination for Students of Divinity	12

PAGE

VII. EDINBURGH UNIVERSITY SOCIETIES AND CLUBS— 13
Agricultural Society 13
Arts' Students' Christian Association . . . 13
Associated Societies:—Dialectic; Scots Law; Diagnostic; Philomathic; Philosophical . . 13
Athletic Club 15
Boat Club 15
Celtic Society 15
Chemical Society 15
Christian Evidence Society 15
Cycling Club 16
Dumfriesshire and Galloway Literary Society . . 16
Free Church Undergraduates' Society . . . 16
Golf Club 16
Medical Students' Christian Association . . 17
Missionary Association 17
Musical Society 17
Physical Society 18
Rifle Company Shooting Club . . . 18
Swimming Club 18
Theological Society 18
Total Abstinence Society 18
University Hall 19
Wesleyan Undergraduates' Association . . 19
White Cross Society 19
VIII. STUDENTS' REPRESENTATIVE COUNCIL . . 20
IX. DIRECTORY OF STUDENTS' LODGINGS . . 20
X. EDINBURGH UNIVERSITY UNION . . . 20
XI. STATISTICS OF RECTORIAL ELECTIONS . . 21
XII. ROYAL MEDICAL SOCIETY 21
XIII. ASSOCIATION FOR THE BETTER ENDOWMENT OF THE UNIVERSITY OF EDINBURGH . . . 22
XIV. UNIVERSITY BUILDINGS EXTENSION SCHEME . 23
INDEX 25

The Calendar.

1891—MAY, 31 DAYS.

1	Fr	*Clin. Surgery Exams. begin.*
2	Sa	
3	S	
4	M	SUMMER SESSION OPENS.
5	Tu	*Clinical Medicine Exams. begin.*
6	W	
7	Th	
8	Fr	
9	Sa	
10	S	
11	M	
12	Tu	LAW CLASSES OPEN. Court of Session sits.
13	W	
14	Th	
15	Fr	Whitsunday Term.
16	Sa	
17	S	
18	M	*Meeting of University Court at* 4 P.M. *Fellowships, Scholarships, Bursaries, paid by Factor.*
19	Tu	
20	W	
21	Th	HOLIDAY. General Assembly meets.
22	Fr	
23	Sa	
24	S	Queen Victoria born, 1819.
25	M	
26	Tu	
27	W	
28	Th	
29	Fr	*Meeting of Senatus Academicus at* 3 P.M.
30	Sa	
31	S	

1891—JUNE, 30 DAYS.

1	M	
2	Tu	*University Local Examinations begin.*
3	W	
4	Th	
5	Fr	
6	Sa	
7	S	
8	M	
9	Tu	
10	W	
11	Th	
12	Fr	
13	Sa	
14	S	
15	M	*Meeting of University Court at* 4 P.M. *Final Prof. Exam. in Med.—Surg.* 10; *Midwif.* 1; *Prescriptions*, 3.30.
16	Tu	*Final Prof. Exam. in Med.—Prac. of Phys.*, 10; *Med. Jur.*, 1.
17	W	*Final Prof. Oral Exams. begin.*
18	Th	
19	Fr	
20	Sa	*Accession of the Queen*, 1837.
21	S	
22	M	
23	Tu	
24	W	Midsummer Day.
25	Th	
26	Fr	*Meeting of Senatus Academicus at* 3 P.M. *Names for Second B.Sc. in Public Health to be given in, Certificates shown, and Fees paid.*
27	Sa	
28	S	*Queen's Coronation*, 1838.
29	M	*Candidates for Law Graduation Examinations to intimate their names, show Certificates, and pay Fees.*
30	Tu	

1891—JULY, 31 DAYS.

1	W	
2	Th	
3	Fr	*Names of Candidates for 2d Professional Exam. to be given in, Certificates shown, and Fees paid.*
4	Sa	
5	S	
6	M	*Exam. for Deg. in Law: Scots Law*, 10; *Const. Law and Hist.*, 3. *Second B.Sc. in Public Health: Medicine*, 11; *Sanitary Law and Vital Statistics*, 2.
7	Tu	*Exam. for Deg. in Law: Civil Law*, 10; *Const. Law and Hist.*, 3. *Second B.Sc.: Practical Sanitation*, 11 *and* 2.
8	W	*Exam. for Deg. in Law: Conveyancing*, 10; *Political Economy*, 10; *Medical Jurisprudence*, 3. *Second B.Sc. Public Health, Oral Examination.*
9	Th	*Exam. for Deg. in Law: Public Law*, 10. *Second B.Sc. Public Health, Oral Examination.*
10	Fr	*Second Prof. Exam. in Med.—Anat.*, 10; *Physiol.*, 1.
11	Sa	*Do. do. Materia Medica*, 10; *Pathol.*, 1.
12	S	*Meeting of University Court at* 4 P.M. *Last day for Names of Candidates for First Prof. Exam. in Med. and for Exams. in Science, to be given in, Certificates shown, and Fees paid. Names and Subjects for M.A. with Honours in Nat. Science to be intimated.*
13	M	
14	Tu	
15	W	*Last day for payment of Stamp Duty for M.D. Diplomas. Second Prof. Oral Exams. begin.*
16	Th	
17	Fr	SUMMER SESSION ENDS.
18	Sa	
19	S	
20	M	*First Prof. in Med., First and Second B.Sc., and M.A. with Hon. in Nat. Sc. Exams.: Chem.*, 11; *Physiol.*, 11; *Laboratory Work*, 11; *Bot.*, 2; *Physics*, 2.
21	Tu	*First Prof. in Med., First and Second B.Sc., and M.A. with Hon. in Nat. Sc. Exams.: Nat. Hist.*, 11; *Geology*, 2. *Practical Laboratory Work for Pub. Health begins.*
22	W	*Prac. Chem. Exam., for First Prof. and First B.Sc. begins.*
23	Th	
24	Fr	
25	Sa	
26	S	
27	M	
28	Tu	
29	W	
30	Th	*Meeting of Senatus Academicus at* 3 P.M. (1) *Candidates for Degrees to be reported and approved;* (2) *Class Lists and Returns for Court, &c., to be given in.*
31	Fr	

1891—AUGUST, 31 DAYS.

1	Sa	GRADUATION CEREMONIAL IN LAW, MEDICINE, AND SCIENCE AT 10 A.M. Lammas Day.
2	S	
3	M	*University Library open from* 10 A.M. *to* 1 P.M. *till Tuesday,* 1*st September. Closed on Saturdays.*
4	Tu	
5	W	
6	Th	
7	Fr	
8	Sa	
9	S	
10	M	
11	Tu	
12	W	
13	Th	
14	Fr	
15	Sa	
16	S	
17	M	
18	Tu	
19	W	
20	Th	
21	Fr	
22	Sa	
23	S	
24	M	
25	Tu	
26	W	
27	Th	
28	Fr	
29	Sa	
30	S	
31	M	

1891—SEPTEMBER, 30 DAYS.

1	Tu	*Names of Candidates for Ferguson Scholarships to be given in. Reading Room in University New Buildings open from* 10 *to* 1 *till* 1*st October.*
2	W	
3	Th	
4	Fr	
5	Sa	
6	S	
7	M	
8	Tu	
9	W	
10	Th	
11	Fr	
12	Sa	
13	S	
14	M	
15	Tu	
16	W	
17	Th	
18	Fr	
19	Sa	
20	S	
21	M	Edinburgh Holiday.
22	Tu	
23	W	
24	Th	
25	Fr	
26	Sa	
27	S	
28	M	
29	Tu	
30	W	

1891—OCTOBER, 31 DAYS.

1	Th	ANNUS ACADEMICUS *begins. First day for payment of* MATRICULATION *fee. Last day for Names for Preliminary Examinations in Medicine and Science to be given in, and Fees paid. Last day for entering for Preferential Bursaries. Practical Anatomy and Public Health Laboratory Courses begin. Exams. for Ferguson Scholarships begin.*
2	Fr	
3	Sa	
4	S	*Annual Inspection of Library. Closed till 13th October. All Books to be returned before this date.*
5	M	*Last day for Names of Candidates for Degrees in Arts and Science, for B.L. Preliminary, for Schoolmaster's Diploma, and for L.A. Certificates to be given in, Certificates shown, and Fees paid.*
6	Tu	*Prelim. Exam. in Arts for Med. and Sc. Degrees: Arith.*, 9 A.M.; *Math.*, 11.30; *Higher Math.*, 2.
7	W	*Prelim. Do.: Eng.*, 9; *Nat. Phil.*, 11.30; *Mech.* 2.
8	Th	*Prelim. Do.: Lat.*, 9; *Logic*, 11.30; *Mor. Phil.*, 2.
9	Fr	*Do. Do.: Greek*, 9; *French*, 11.30; *German*, 2; *B.Sc. in Agriculture, Engineering*, 10.
10	Sa	*Last day for entering for open Bursaries in Arts.*
11	S	*Meeting of University Court at* 4 P.M. *Meeting of Senatus Academicus at* 2 P.M.: (1) *Standing Committees to be appointed;* (2) *Names of Professors' Assistants to be submitted for approval;* (3) *Annual Budget of Senatus to be arranged;* (4) *House Committee to submit Estimates for year.*
12	M	
13	Tu	CLASSES IN FACULTY OF MEDICINE OPEN. *Pass Examinations for M.A. and for First B.Sc.: Latin*, 9 *and* 11.30; *Mathematics*, 2.30.
14	W	*Pass Examinations for M.A. and for First B.Sc.: Mathematics*, 9; *Greek*, 11.30 *and* 2.30. *Prely. French and German for B.L.*, 11.30 *and* 2.30. *Meeting of Preliminary Examiners.*
15	Th	CLASSES IN FACULTY OF LAW OPEN. *Pass Examinations for M.A. and for First and Second B.Sc.: Logic and Psychology*, 9; *Natural Philosophy*, 1; *Physics*, 1; *Chemistry as applied to Agriculture*, 9; *Veterinary Hygiene*, 1. *Last day for entering Names for Second and Third Year Grierson Bursaries in Law.*

16	Fr	*Pass Examinations for M.A. and First and Second B.Sc.: Moral Philosophy*, 9; *Rhetoric*, 1; *Agriculture*, 9; *Economics*, 1. *Examinations for Heriot Bursaries: French*, 9; *German*, 1; *Gaelic for Macpherson Bursary*, 1.
17	Sa	ENTRANCE EXAMINATIONS *for* CURRICULUM *of* THREE SESSIONS, *and for* OPEN BURSARIES IN ARTS, *Latin*, 9; *Greek*, 1.
18	S	
19	M	*Entrance Examination in Mathematics and Exam. for open Bursaries, second day. Mathematics*, 9; *English*, 1; *Logic, &c.*, 4. *Last day for Names of Candidates for Degrees in Law to be given in, Certificates shown, and Fees paid.*
20	Tu	*Exam. in Mathematics for John Welsh and Heriot Bursaries*, 9; *Gaelic for Mackinnon Bursary at* 9 A.M. *Last day for Names of Candidates for B.D. to be given in, Certificates shown, and Fees paid.*
21	W	CLASSES IN FACULTY OF ARTS OPEN.
22	Th	
23	Fr	*Names of Candidates for 2nd B.Sc. in Engineering to be given in, Certificates shown, and Fees paid.*
24	Sa	*Examination of Preferential Candidates for Bursaries in Arts: Latin at* 9 A.M.; *Greek at* 10.30; *Mathematics at* 1 P.M.; *English at* 2.30.
25	S	
26	M	*Exam. for Degrees in Law: Scots Law*, 10; *Const. Law and History*, 3.
27	Tu	*Examination for B.D.: Hebrew*, 10; *Apol. Theol.*, 2. *Exam. for Deg. in Law: Civil Law*, 10; *Const. Law and Hist.*, 3.
28	W	*Examination for B.D.: Eccles. Hist.*, 10; *Syst. Theol.*, 2. *Exam. for Deg. in Law: Conveyancing*, 10; *Pol. Econ.*, 10; *Med. Jurisp.*, 3.
29	Th	*Exam. for B.D.: Bib. Crit.*, 10. *Exam. for Deg. in Law: Public Law*, 10.
30	Fr	*Meeting of General Council, at* 3 *o'clock. Election of two Assessors in University Court.*
31	Sa	

1891—NOVEMBER, 30 DAYS.

1	S	
2	M	
3	Tu	DIVINITY CLASSES OPEN. *Introductory Address by Rev. Prof. Charteris, D.D.*, 12. *Dynamics for Second B.Sc. in Engineering*, 1.
4	W	*Second B.Sc.: Engineering and Drawing*, 11 *and* 2.
5	Th	*Do.* *do.* *do.*, 11 *and* 2.
6	Fr	*Do.* *do.* *do.*, 11 *and* 2.
7	Sa	
8	S	
9	M	*Appointment of Class Assistants to be submitted for approval.*
10	Tu	
11	W	Martinmas Term. *Certificates for Bursaries in Arts granted by Dean.*
12	Th	
13	Fr	*Examinations for Divinity Bursaries: 1st day*, 10.
14	Sa	*Fellowships, Scholarships, Bursaries paid by Factor. Examinations for Divinity Bursaries: 2d day*, 10.
15	S	
16	M	*Meeting of University Court at* 4 P.M.
17	Tu	
18	W	
19	Th	
20	Fr	
21	Sa	
22	S	
23	M	
24	Tu	
25	W	
26	Th	
27	Fr	
28	Sa	*Registration of Members of General Council for Register of* 1892 *ends. Meeting of Senatus Academicus at* 2 P.M.*: Reports on Bursaries and Entrance Exams.*
29	S	
30	M	

1891—DECEMBER, 31 DAYS.

1	Tu	*Names of Candidates for Fellowships and Scholarships to be intimated.*
2	W	
3	Th	
4	Fr	
5	Sa	
6	S	
7	M	
8	Tu	
9	W	
10	Th	
11	Fr	
12	Sa	*Meeting of Senatus at* 2 P.M.: (1) *Election of Managers for Royal Infirmary;* (2) *Report to Widows' Fund.*
13	S	
14	M	*Meeting of University Court at* 4 P.M.
15	Tu	
16	W	
17	Th	*Classes meet for last time before Christmas Vacation. Examination for Fellowships and Scholarships in Arts begins at* 10 *o'clock.*
18	Fr	
19	Sa	
20	S	*Univ. Library open from* 10 A.M. *to* 1 P.M. *till Tuesday,* 5*th January. Closed on Saturdays. Reading Room in New Buildings closed during same period.*
21	M	
22	Tu	
23	W	
24	Th	
25	Fr	CHRISTMAS DAY.
26	Sa	
27	S	
28	M	
29	Tu	
30	W	
31	Th	

1892—JANUARY, 31 DAYS.

1	Fr	
2	Sa	
3	S	
4	M	
5	Tu	*Classes meet after Christmas Vacation.*
6	W	
7	Th	
8	Fr	
9	Sa	
10	S	
11	M	
12	Tu	
13	W	
14	Th	
15	Fr	
16	Sa	
17	S	
18	M	*Meeting of University Court at* 4 P.M. *Appointment of Examiners in Medicine and in Science.*
19	Tu	
20	W	
21	Th	
22	Fr	
23	Sa	
24	S	
25	M	*Meeting of University Court for hearing Registration Appeals, at* 4 P.M.
26	Tu	
27	W	
28	Th	
29	Fr	
30	Sa	*Meeting of Senatus Academicus at* 2 P.M.: (1) *Annual Reports on Museums and Univ. Library to be given in;* (2) *Names for Honorary Degrees proposed;* (3) *Arrangements for Summer and Winter Sessions,* 1892-93.
31	S	

1892—FEBRUARY, 28 DAYS.

1	M	
2	Tu	
3	W	
4	Th	
5	Fr	
6	Sa	
7	S	
8	M	*Holiday in Faculty of Arts.*
9	Tu	
10	W	
11	Th	
12	Fr	
13	Sa	*Reid Commemoration Concert.*
14	S	
15	M	*Meeting of University Court at* 4 P.M.
16	Tu	
17	W	
18	Th	
19	Fr	
20	Sa	
21	S	
22	M	
23	Tu	
24	W	*Last day for Names for Prelim. Exams. in Med. and in Science to be given in, and Fees paid.*
25	Th	
26	Fr	
27	Sa	*Meeting of Senatus Academicus at* 2 P.M.*:* (1) *Report on Honorary Degrees in Divinity and Law;* (2) *Resolution to Elect Member of General Assembly.*
28	S	
29	M	

1892—MARCH, 31 DAYS.

1	Tu	*Prelim. Exam. in Arts for Degrees in Med. and Science: Arith.*, 9; *Math.*, 11.30; *Higher Math.*, 2.
2	W	*Do. English*, 9 *o'clock; Nat. Phil.*, 11.30; *Mechanics*, 2.
3	Th	*Do. Latin*, 9 *o'clock; Logic*, 11.30; *Moral Philosophy*, 2.
4	Fr	*Do. Greek*, 9 *o'clock; French*, 11.30; *German*, 2.
5	Sa	
6	S	
7	M	*Last day for Names for First Prof. Exam., and for Exams. for Degrees in Science to be given in, Certificates shown, and Fees paid. Names of Candidates and subjects of Exam. for M.A. with Honours in Natural Science to be intimated.*
8	Tu	
9	W	
10	Th	
11	Fr	*Meeting of Preliminary Examiners.*
12	Sa	
13	S	
14	M	*Meeting of University Court at* 4. P.M.
15	Tu	*Names for B.D. Exams. to be given in, Certificates shown, and Fees paid.*
16	W	
17	Th	
18	Fr	*Last day for Names of Candidates for Degrees in Arts, for Schoolmaster's Diploma, for Literate in Arts, and for B.L. Preliminary to be given in, and Fees paid.* CLASSES IN FACULTIES OF DIVINITY, LAW, AND MEDICINE CLOSE.
19	Sa	

20	S	
21	M	*First Prof. in Med., First and Second B.Sc. and M.A. Honours in Nat. Sc. Exams.: Chemistry*, 11; *Physiol.*, 11; *Bot.*, 2. *First B.Sc. in Public Health begins. Laboratory Work*, 11; *Physics*, 2. *Names of Candidates for Second Prof. Exam. to be given in, Certificates shown, and Fees paid.*
22	Tu	*First Prof., First and Second B.Sc. and M.A. with Honours in Nat. Sc. Exams.: Nat. Hist.*, 11; *Geology*, 2. *Oral Exams. begin. Practical Laboratory Work for Public Health begins.*
23	W	*Exam. for D.Sc. in Semitic Philology begins. B.D. Exams.: Heb.*, 10; *Apol. Theol.*, 2. *Prac. Chem. Exams. for Med. and Sc. begin.*
24	Th	*B.D. Exams.: Eccles. Hist.*, 10; *Syst. Theol.*, 2.
25	Fr	*B.D. Exam.: Bib. Crit.*, 10.
26	Sa	*Meeting of Senatus Academicus at* 2 P.M.: (1) *Member of Assembly to be elected;* (2) *Acceptances of Honorary Degrees;* (3) *Class Lists and Returns for Court to be given in. Exams. for Schoolmaster's Diploma*, 10 *and* 2; *Education for L.A.*, 10.
27	S	
28	M	*Second Prof. Exams.: Anat.* 10; *Physiol.*, 1; *First and Second B.Sc. in Agriculture*, 9; *Economics*, 1; *Engineering*, 1.
29	Tu	*Second Prof. and First and Second B.Sc. in Agriculture Exams.: Materia Medica*, 10; *Pathology*, 1; *Agricultural Chemistry*, 10; *Veterinary Hygiene*, 1.
30	W	*Second Professional Oral Exams. begin.*
31	Th	

1892—APRIL, 30 DAYS.

1	Fr	CLASSES IN THE FACULTY OF ARTS CLOSE.
2	Sa	*Certificates, &c., for M.A. Exams. to be shown before one p.m.*
3	S	
4	M	*Pass Examinations for M.A. and for First and Second B.Sc.: Latin*, 9 *and* 11.30; *Mathematics*, 3; *Engineering and Drawing*, 11 *and* 2.
5	Tu	*Pass Examinations for M.A. and for First and Second B.Sc.: Math.*, 9; *Greek*, 11.30 *and* 2.30. *Preliminary French and German for B.L.*, 11.30 *and* 2.30. *Engineering and Drawing*, 11 *and* 2.
6	W	*Pass Examinations for M.A. and for First and Second B.Sc.: Logic and Psychology*, 9; *Nat. Philosophy*, 1; *Engineering and Drawing*, 11 *and* 2.
7	Th	*Pass Exams. for M.A.: Moral Phil.*, 9; *Rhetoric*, 1.
8	Fr	*Examinations for M.A. with Honours and for Second B.Sc.: Latin*, 9 *and* 1; *Logic*, 9 *and* 1; *Mathematics*, 9 *and* 1. *Also Exam. for D.Sc. in Mental Science and Philology*, 9.
9	Sa	*Do. do. do.—Latin*, 9; *Greek*, 1; *Logic and Metaph.*, 9; *Mor. Phil.*, 1; *Nat. Phil.*, 9 *and* 1; *Dynamics* (*B.Sc. Engin.*), 1.
10	S	
11	M	*Examination for M.A. with Honours: Greek*, 9 *and* 1; *Moral Phil.*, 9 *and* 1.
12	Tu	
13	W	
14	Th	GRADUATION CEREMONIAL IN DIVINITY, LAW, ARTS, AND SCIENCE, AT 10 A.M. COMMEMORATION SERVICE IN ST GILES'S AT 12.

15	Fr	GOOD FRIDAY.
16	Sa	
17	S	EASTER SUNDAY.
18	M	*Meeting of University Court at* 4 P.M. Edinburgh holiday.
19	Tu	*Meeting of General Council at* 3 P.M. *Names of Candidates for Final Exam. in Medicine to be given in, Certificates shown, and Fees paid. University Library, and also the Reading Room in New Buildings, open from* 10 A.M. *to* 1 P.M.
20	W	*till 25th April. Closed on Saturdays.*
21	Th	
22	Fr	
23	Sa	
24	S	
25	M	
26	Tu	
27	W	
28	Th	
29	Fr	
30	Sa	*Last day for giving in Theses and paying Fees for M.D., and for D.Sc. in Public Health.*

Calendar 1892-93.

MAY 1892.						
S	1	8	15	22	29	
M	2	9	16	23	30	
Tu	3	10	17	24	31	
W	4	11	18	25		
Th	5	12	19	26		
Fr	6	13	20	27		
Sa	7	14	21	28		

JUNE 1892.						
S		5	12	19	26	
M		6	13	20	27	
Tu		7	14	21	28	
W	1	8	15	22	29	
Th	2	9	16	23	30	
Fr	3	10	17	24		
Sa	4	11	18	25		

JULY 1892.						
S	3	10	17	24	31	
M	4	11	18	25		
Tu	5	12	19	26		
W	6	13	20	27		
Th	7	14	21	28		
Fr	1	8	15	22	29	
Sa	2	9	16	23	30	

AUGUST 1892.						
S		7	14	21	28	
M	1	8	15	22	29	
Tu	2	9	16	23	30	
W	3	10	17	24	31	
Th	4	11	18	25		
Fr	5	12	19	26		
Sa	6	13	20	27		

SEPTEMBER 1892.						
S		4	11	18	25	
M		5	12	19[1]	26	
Tu		6	13	20	27	
W		7	14	21	28	
Th	1	8	15	22	29	
Fr	2	9	16	23	30	
Sa	3	10	17	24		

OCTOBER 1892.						
S		2	9	16	23	30
M		3	10	17	24	31
Tu		4	11	18	25	
W		5	12	19	26	
Th		6	13	20	27	
Fr		7	14	21	28	
Sa	1	8	15	22	29	

NOVEMBER 1892.						
S		6	13	20	27	
M		7	14	21	28	
Tu	1	8	15	22	29	
W	2	9	16	23	30	
Th	3	10	17	24		
Fr	4	11	18	25		
Sa	5	12	19	26		

DECEMBER 1892.						
S		4	11	18	25[2]	
M		5	12	19	26	
Tu		6	13	20	27	
W		7	14	21	28	
Th	1	8	15	22	29	
Fr	2	9	16	23	30	
Sa	3	10	17	24	31	

JANUARY 1893.						
S	1	8	15	22	29	
M	2	9	16	23	30	
Tu	3	10	17	24	31	
W	4	11	18	25		
Th	5	12	19	26		
Fr	6	13	20	27		
Sa	7	14	21	28		

FEBRUARY 1893.						
S		5	12	19	26	
M		6	13[3 4]	20	27	
Tu		7	14	21	28	
W	1	8	15	22		
Th	2	9	16	23		
Fr	3	10	17	24		
Sa	4	11	18	25		

MARCH 1893.						
S		5	12	19	26	
M		6	13	20	27	
Tu		7	14	21	28	
W	1	8	15	22	29	
Th	2	9	16	23	30	
Fr	3	10	17	24	31[5]	
Sa	4	11	18	25		

APRIL 1893.						
S		2	9	16	23	30
M		3	10	17[1]	24	
Tu		4	11	18	25	
W		5	12	19	26	
Th		6	13	20	27	
Fr		7	14	21	28	
Sa	1	8	15	22	29	

[1] Edinburgh Holiday. [2] Christmas Day. [3] Holiday in Faculty of Arts.
[4] Reid Concert. [5] Good Friday.

ADDRESSES OF THE PRINCIPAL AND PROFESSORS.

Principal Sir William Muir, Dean Park House.
Professor Chrystal, 5 Belgrave Crescent.
„ Butcher, 27 Palmerston Place.
„ Calderwood, Craigrowan, Napier Road, Merchiston.
„ Tait, 38 George Square.
„ Masson, 58 Great King Street.
„ Copeland, 15 Royal Terrace.
„ Wallace, Brunstane House, Joppa.
„ Eggeling, 15 Hatton Place, Grange.
„ Armstrong, The University.
„ Geikie, 31 Merchiston Avenue.
„ Nicholson, Eden Lodge, Newbattle Terrace, Morningside.
„ Laurie, Nairne Lodge, Duddingston.
„ Baldwin Brown, 3 Rosebery Crescent.
„ Mackinnon, 1 Merchiston Place.
Rev. Professor Flint, Johnstone Lodge, Craigmillar Park.
„ Adams, Victoria Park, Trinity.
„ Taylor, 6 Greenhill Park.
„ Charteris, Cameron House, Dalkeith Road.
Professor Kirkpatrick, 5 Murrayfield.
„ Sir Douglas Maclagan, 28 Heriot Row.
„ Fraser-Tytler, 22 Young Street.
„ Rankine, 23 Ainslie Place.
„ Goudy, 2 Drummond Place.
„ Sir Ludovic Grant, Bart., 29 India Street.
„ Rutherford, 14 Douglas Crescent.
„ Grainger Stewart, 19 Charlotte Square.
„ Sir Wm. Turner, 6 Eton Terrace.
„ Crum Brown, 8 Belgrave Crescent.
„ Simpson, 52 Queen Street.
„ Cossar Ewart, 2 Belford Park.
„ Thomas R. Fraser, 13 Drumsheugh Gardens.
„ Annandale, 34 Charlotte Square.

Professor Chiene, 26 Charlotte Square.
„ Greenfield, 7 Heriot Row.
„ Bayley Balfour, Inverleith House.

PROFESSORS EMERITI.

George James Allman, LL.D., M.D., formerly Professor of Natural History; Ardmore, Parkstone, Dorset.

John Stuart Blackie, formerly Professor of Greek; 9 Douglas Crescent.

Alexander Campbell Fraser, D.C.L., LL.D., formerly Professor of Logic and Metaphysics; Gorton, Hawthornden, Midlothian.

Norman Macpherson, LL.D., formerly Professor of Scots Law; 2 Randolph Cliff.

Herbert Stanley Oakeley, D.C.L., LL.D., Mus. D., formerly Professor of Music; 16 Suffolk Street, London, S.W.

Charles Piazzi Smyth, LL.D., formerly Professor of Practical Astronomy; Clova, Ripon.

PROFESSORS RESIGNED.

Theodor Aufrecht, M.A., Ph.D., formerly Professor of Sanskrit; The University, Bonn.

Archibald Geikie, LL.D., formerly Professor of Geology; Museum of Geology, Jermyn Street, London.

Sir Joseph Lister, Bart., LL.D., M.D., formerly Professor of Clinical Surgery; 12 Park Crescent, Portland Place, London.

Æneas James George Mackay, LL.D., Sheriff of Fife, Advocate, formerly Professor of History; 7 Albyn Place, Edinburgh.

Right Hon. Sir Lyon Playfair, K.C.B., LL.D., M.P., formerly Professor of Chemistry; 68 Onslow Gardens, South Kensington, London.

Robert Wallace, D.D., M.P., formerly Professor of Church History; 50 Finborough Road, London, S.W.

University Officers.

—o—

Chancellor.

Date of Institution.		Appointed
1859.	RIGHT HON. JOHN INGLIS, D.C.L., LL.D., Lord Justice-General	1868

Vice-Chancellor.

1859.	SIR WILLIAM MUIR, K.C.S.I., D.C.L., LL.D., Ph.D.	1885

Rector.

1859.	THE RIGHT HON. GEORGE JOACHIM GOSCHEN, M.P., LL.D.	1890

Principal.

1582.	SIR WILLIAM MUIR, K.C.S.I., D.C.L., LL.D., Ph.D.	1885

Representative in Parliament.

1868.	SIR CHARLES JOHN PEARSON, Q.C.	1890

—o—

University Court.

President—THE RECTOR.

THE PRINCIPAL	*Ex officio.*			
THE LORD PROVOST OF EDINBURGH	*Ex officio.*			
ÆNEAS J. G. MACKAY, LL.D., Advocate	Assessor, nominated by Chancellor			1891
THE HON. LORD STORMONTH DARLING	Do.	nominated by Rector	1887 &	1891
JAMES COLSTON	Do.	elected by Town Council		1886
PATRICK HERON WATSON, M.D., LL.D.	Do.	elected by General Council		1887
THE RIGHT HON. JOHN H. A. MACDONALD, C.B., LL.D., Lord Justice-Clerk	Do.	do.	do.	1889
JOHN DUNCAN, M.D.	Do.	do.	do.	1889
THOMAS M'KIE, Advocate	Do.	do.	do.	1889
MALCOLM CAMPBELL TAYLOR, D.D., Professor of Ecclesiastical History	Do.	elected by Senatus		1889

		Appointed.
SIR WILLIAM TURNER, M.B., D.C.L., LL.D., Professor of Anatomy	Assessor, elected by Senatus.....	1889
ALEXANDER CRUM BROWN, M.D., D.Sc., Professor of Chemistry	Do. do. do.	1889
SAMUEL HENRY BUTCHER, LL.D., Professor of Greek.....	Do. do. do.	1891

Secretary—JOHN CHRISTISON, W.S.
Clerk—THOMAS GILBERT.
Assistant Clerk—JAMES DOWIE.
Secretary's Clerk—GEORGE CAMPBELL.

—o—

Curators of Patronage.

PRINCIPAL SIR WILLIAM MUIR	Elected by University Court ..		Dec. 1887
RIGHT HON. J. H. A. MACDONALD, C.B., LL.D., Lord Justice-Clerk.....	Elected by	do.	Feb. 1890
PATRICK HERON WATSON, M.D., LL.D.	Elected by	do.	April 1891
RIGHT HON. JOHN BOYD, Lord Provost.....	Elected by Town Council		Dec. 1876
JOHN CLAPPERTON.....	Elected by	do.	June 1885
SIR THOS. CLARK, Bart.....	Elected by	do.	Jan. 1886
JAMES M'INTOSH, S.S.C.....	Elected by	do.	June 1889

Secretary—R. HERBERT JOHNSTON, W.S., 66 Frederick Street.

—o—

Senatus Academicus.

President—THE PRINCIPAL. **Secretary**—PROFESSOR KIRKPATRICK.

FACULTY OF ARTS.

Dean—GEORGE CHRYSTAL, LL.D., Professor of Mathematics.

Date of Institution.	Chairs.	Professors.	Appointed.	Patrons.
1583	**Humanity**.....	*Vacant*.....	1891	Lds. of Ses., Cur., Fac. of Adv., and W.S. Soc. [1]
1583	**Greek**.....	SAMUEL HENRY BUTCHER, LL.D.	1882	Curators.
1583	**Mathematics**.....	GEO. CHRYSTAL, LL.D...	1879	Curators.
1583	**Logic & Metaphysics.**	*Vacant*.....	189-	Curators.
1583	**Moral Philosophy**.....	HENRY CALDERWOOD, LL.D.	1868	Curators.
1583	**Natural Philosophy**...	PETER GUTHRIE TAIT, M.A., D.Sc.	1860	Curators.
1760	**Rhetoric and English Literature**	DAVID MASSON, LL.D...	1865	Crown.
1719	**History**	JOHN KIRKPATRICK, LL.B., LL.D.	1881	Fac. of Adv., & Cur.
1786	**Practical Astronomy**	RALPH COPELAND, Ph.D.	1889	Crown.

[1] The Judges of the Court of Session nominate two Delegates, the Curators two, the Faculty of Advocates one, and the Society of Writers to the Signet one. These six Delegates appoint the Professor, who receives his Commission from the Curators.

Date of Institution.	Chairs.	Professors.	Appointed.	Patrons.
1790	**Agriculture & Rural Economy**	ROBERT WALLACE.....	1885	Lds. of Sess., Cur., & Univ. Ct.[1]
1839	**Music**[2].....	*Vacant*.....	1891	Univ. Court.
1862	**Sanskrit and Comparative Philology**[3]	JULIUS EGGELING, Ph.D.	1875	Crown.
1868	**Engineering**[4].....	GEORGE FREDERICK ARMSTRONG, M.A., C.E.	1885	Crown,
1871	**Geology**[5].....	JAMES GEIKIE, LL.D....	1882	Crown.
1871	**Commercial & Political Economy & Mercantile Law**[6]	JOSEPH SHIELD NICHOLSON, M.A., D.Sc.	1880	Cur., & Merch. Co.
1876	**Theory, History, and Practice of Education**[7]	SIMON SOMERVILLE LAURIE, LL.D.	1876	Bell Trustees.
1879	**Fine Art**[8].....	GERARD BALDWIN BROWN, M.A.	1880	Univ. Ct., Pres. R. Scott. Acad.
1882	**Celtic Languages, History, Literature, and Antiquities**[9]	DONALD MACKINNON, M.A.	1882	Cur., & Emeritus Prof. Blackie.

FACULTY OF DIVINITY.

Dean—MALCOLM CAMPBELL TAYLOR, D.D., Professor of Ecclesiastical History.

1583	**Divinity**.....	ROBERT FLINT, D.D.....	1876	Curators.
1642	**Hebrew and Oriental Languages**	DAVID LAIRD ADAMS, M.A., B.D., D.D.	1880	Curators.
1694	**Ecclesiastical History**	MALCOLM CAMPBELL TAYLOR, D.D.	1877	Crown.
1846	**Biblical Criticism & Biblical Antiquities**	ARCHIBALD HAMILTON CHARTERIS, D.D.	1868	Crown.

FACULTY OF LAW.

Dean—JOHN KIRKPATRICK, M.A., LL.B., LL.D., Dr Jur., Professor of History.

1707	**Public Law**.....	Sir LUDOVIC GRANT, Bart., B.A.	1890	Crown.
1710	**Civil Law**.....	HENRY GOUDY, LL.B....	1889	Fac. of Adv., and Cur.[10]

---

[1] The Professor is elected by nine Delegates, three chosen by the Judges of the Court of Session, three by the Curators, and three by the University Court.

[2] This Chair was endowed by General John Reid.

[3] This Chair was endowed by John Muir, LL.D. (Edin.), D.C.L. (Oxon.), late of the Bengal Civil Service, and by a Parliamentary vote of £200.

[4] This Chair was endowed in 1868 by Sir David Baxter, and by an annual vote of Parliament of £200.

[5] This Chair was endowed in 1871 by a sum of £6000 mortified by Sir Roderick Impey Murchison, Bart., and by an annual vote by Parliament of £200.

[6] This Chair was endowed in 1871 by the Merchant Company of Edinburgh, and other Governors of George Watson's and Daniel Stewart's Hospitals, who have granted a salary of £450 as the endowment.

[7] This Chair was endowed by the Trustees of the late Dr A. Bell, who granted a sum of £6000 for the purpose, to which a further sum of £4500 out of the Bell Fund was added by the Educational Endowments Commission in 1887.

[8] This Chair was endowed by Mr H. G. and Miss Frances Watson.

[9] Endowed with a sum of £14,000, raised by public subscription.

[10] For this Chair the Faculty of Advocates send to the Curators a leet of two, of whom the Curators must choose one.

Date of Institution.	Chairs.	Professors.	Appointed.	Patrons.
1719	**History**	John Kirkpatrick, LL.B., LL.D.	1881	Fac. of Adv., and Cur.[1]
1722	**Scots Law**	John Rankine, M.A.	1888	Do.[1]
1807	**Medical Jurisprudence and Police**	Sir Douglas Maclagan, M.D.	1862	Crown.
1825	**Conveyancing**[2]	James Stuart Fraser-Tytler, LL.D.	1866	Cur., Dep.-Kpr. and W.S. Soc.[3]
1871	**Commercial and Political Economy and Mercantile Law**	Joseph Shield Nicholson, M.A., D.Sc.	1880	Cur., & Merch. Co.

FACULTY OF MEDICINE.

Dean—Thomas Richard Fraser, M.D., F.R.S., Professor of Materia Medica.

1676	**Botany**	Bayley Balfour, M.D.	1888	Curators.
1685	**Institutes of Medicine**	Wm. Rutherford, M.D.	1874	Curators.
1685	**Practice of Physic**	Thomas Grainger Stewart, M.D.	1876	Curators.
1705	**Anatomy**	Sir Wm. Turner, M.B.	1867	Curators.
1713	**Chemistry & Chemical Pharmacy**	Alex. Crum Brown, M.D.	1869	Curators.
1726	**Midwifery & Diseases of Women & Children**	Alex. Russell Simpson, M.D.	1870	Curators.
1741	**Clinical Medicine**	Thomas Grainger Stewart, M.D.	1876	
		Thomas Richard Fraser, M.D.	1877	
		William Smith Greenfield, M.D.	1881	
		Diseases of Women—Alexander Russell Simpson, M.D.	1870	
1767	**Natural History**	James Cossar Ewart, M.D.	1882	Crown.
1768	**Materia Medica**	Thomas Richard Fraser, M.D.	1877	Curators.
1803	**Clinical Surgery**	Thos. Annandale, M.D.	1877	Crown.
1807	**Medical Jurisprudence**	Sir Douglas Maclagan, M.D.	1862	Crown.
1831	**Surgery**	John Chiene, M.D.	1882	Curators.
1831	**General Pathology**	William Smith Greenfield, M.D.	1881	Curators.

UNIVERSITY LECTURERS.

Gifford Lecturer on Natural Theology	Sir George G. Stokes, Bart., Lucasian Professor of Mathematics, University of Cambridge. 1890.
Forestry	*Vacant.*
Agricultural Entomology	William Fream, B.Sc. 1891.
Civil and Criminal Procedure.	John P. Coldstream, W.S. 1884.

[1] For each of these Chairs the Faculty of Advocates send to the Curators a leet of two, of whom the Curators must choose one.

[2] Endowed by the Society of Writers to the Signet.

[3] The Election is by—(1) Two Delegates from the Curators; (2) Two from the Society of Writers to the Signet; and (3) The Deputy-Keeper of the Signet.

Mental Diseases	THOMAS S. CLOUSTON, M.D. 1879.
Diseases of the Eye	DOUGLAS ARGYLL ROBERTSON, M.D. 1883.
Clinical Instruction on Diseases of Children	JAMES CARMICHAEL, M.D. 1885. JOHN PLAYFAIR, M.B. 1889.
Comparative Embryology	GEORGE BROOK. 1885.

ASSISTANTS TO PROFESSORS.

IN THE FACULTY OF ARTS.

Humanity	FRANCIS R. JAMIESON, M.A.
Greek	JOHN A. SMITH, M.A. (Edin.), B.A. (Oxon.
Mathematics	R. E. ALLARDICE, M.A.
Logic and Metaphysics	R. P. HARDIE, M.A. (Edin.), B.A. (Oxon.)
Moral Philosophy	CHARLES M. DOUGLAS, M.A.
Natural Philosophy	WILLIAM PEDDIE, D.Sc.
Do. (Mechanical)	THOMAS LINDSAY.
Rhetoric and Eng. Liter	GEO. GREGORY SMITH, M.A. (Edin.), B.A. (Oxon.)
Agriculture	J. WILLIAM WALLACE.
Engineering	W. C. POPPLEWELL, B.Sc.
Geology	ALEXANDER JOHNSTON.

IN THE FACULTY OF DIVINITY.

Hebrew and Oriental Languages	JOHN WILLIAM MURRAY.

IN THE FACULTY OF LAW.

Civil Law	JAMES MACKINTOSH, M.A.
Scots Law	JAMES M'ROBIE.
Conveyancing	RONALD F. MAXWELL, JAMES BLACKLOCK, ARTHUR S. ORR.

IN THE FACULTY OF MEDICINE.

Botany	J. MUIRHEAD MACFARLANE, D.Sc., and others.
Institutes of Medicine	J. B. HAYCRAFT, M.D., D.Sc.; E. W. CARLIER, M.B., C.M., B.Sc.; ARTHUR J. WHITING, M.B., C.M.
Practice of Physic	ROBERT A. FLEMING, M.A., M.B., C.M.
Anatomy	DAVID HEPBURN, M.B., C.M.; JAMES MUSGROVE, M.D.; A. LOGAN TURNER, M.B., C.M.; JAMES SIMPSON.
Chemistry	JOHN GIBSON, Ph.D.; LEONARD DOBBIN, Ph.D.; HUGH MARSHALL, D.Sc.; JAMES WALKER, D.Sc., Ph.D.; and THOMAS S. MURRAY, D.Sc.
Midwifery	J. CLARENCE WEBSTER, B.A., M.B., C.M.; and C. CARSTAIRS DOUGLAS, M.B., C.M., *Buchanan Scholar.*
Clinical Medicine Tutor	J. MURDOCH BROWN, M.B., C.M.
Clinical Medicine	For Winter 1890-91—G. FITZGERALD, M.B., C.M.; R. D. CLARKSON, M.B., C.M., B.Sc.; WM. KERR WALKER, M.B., C.M.—For Summer 1891—A. C. E. GRAY, M.B., C.M.; R. M. RONALDSON, M.B., C.M.; C. C. DOUGLAS, M.B.
Natural History	J. BEARD, B.Sc., Ph.D., and others.
Materia Medica	JOSEPH TILLIE, M.D.; WM. C. SILLAR, M.B., C.M., B.Sc.
Clinical Surgery Tutor	A. LOGAN TURNER, M.B., C.M.
Clinical Surgery	W. C. SMITH, M.B., C.M.; J. W. DOWDEN, M.B., C.M.

Medical Jurisprudence	CHARLES HUNTER STEWART, M.B., C.M., B.Sc.
Surgery	DAVID WALLACE, M.B., C.M.; HAROLD J. STILES, M.B., C.M.; D. P. YOUNG, M.B., C.M.; R. M. HORNE, M.B., C.M.
Pathology	W. H. BARRETT, M.B., C.M.; ROBERT MUIR, M.D.

—o—

Examiners for Degrees, &c.

IN THE FACULTY OF ARTS.

The Professors of Humanity, Mathematics, Greek, Logic and Metaphysics, Moral Philosophy, Natural Philosophy, Rhetoric and English Literature, Chemistry, Botany, Natural History, and Geology, and the following additional Examiners:—

		Appointed
Mathematics	WILLIAM HARVEY, B.A., LL.B.	1888
Classical Literature	GEORGE MACDONALD, M.A. (Edin.), B.A. (Oxon.)	1888
Mental Philosophy	WILLIAM L. DAVIDSON, M.A., LL.D.	1889

IN THE FACULTY OF DIVINITY.

The Professors of the Faculty of Divinity, and the following additional Examiners:—

WILLIAM HASTIE, B.D.
THOMAS A. BICKERTON, B.D. } Appointed 1889.

IN THE FACULTY OF LAW.

The Professors of the Faculty of Law, with the Examiners in Arts and Professor EGGELING for Preliminary Examinations, and the following additional Examiners:—

JAMES REID, LL.B.
MARK DAVIDSON, LL.B. } Appointed Jan. 1890.

IN THE FACULTY OF MEDICINE.

The Professors of the Faculty of Medicine, with the Examiners in Arts and Professor EGGELING for Preliminary Examinations, and the following additional Examiners:—

		Appointed
Materia Medica	C. D. F. PHILLIPS, M.D.	1887
Physiology	D. NÖEL PATON, M.D.	1887
Pathology	G. SIMS WOODHEAD, M.D.	1887
Surgery	W. WATSON CHEYNE, M.B.	1887
Clinical Medicine	J. O. AFFLECK, M.D.	1887
Practice of Physic	ALEX. HUGHES BENNETT, M.D.	1888
Midwifery	D. BERRY HART, M.D.	1888
Anatomy	JOHNSON SYMINGTON, M.D.	1888
Chemistry	W. H. PERKIN, Jun., Ph.D.	1888
Botany	H. MARSHALL WARD, M.A.	1888
Medical Jurisprudence	JOHN WILLIAM TAYLOR, M.D.	1890
Natural History	W. HERDMAN, D.Sc.	1890
Clinical Surgery	J. CRAWFORD RENTON, M.D.	1890

IN SCIENCE.

PRELIMINARY EXAMINATION.

The Examiners for Degrees in Arts, and Professor EGGELING.

MENTAL SCIENCE.

The Professors of Logic and Metaphysics, and of Moral Philosophy.

PHILOLOGY.

The Professors of Humanity, Greek, Hebrew and Oriental Languages, and of Sanskrit and Comparative Philology.

PHYSICAL AND NATURAL SCIENCE.

The Professors of Mathematics, Natural Philosophy, Chemistry, Botany, Natural History, Physiology, and Geology, and the additional Examiners in Mathematics, Chemistry, Botany, and Natural History.

ENGINEERING.

The Professors of Mathematics, Natural Philosophy, Chemistry, and Engineering, the additional Examiners in Mathematics and Chemistry, and in

		Appointed
Engineering	DAVID ALAN STEVENSON, B.Sc., C.E.	1889

PUBLIC HEALTH.

The Professors of Chemistry, Natural Philosophy, Practice of Physic, Materia Medica, Medical Jurisprudence, and Engineering, and the additional Examiners in Mathematics, Chemistry, and Medical Jurisprudence.

AGRICULTURE.

The Professors of Agriculture, Chemistry, Botany, Natural History, Geology, Political Economy, and Engineering, and the following additional Examiners:—
The additional Examiners in Chemistry, Botany, and Natural History, and in

Agriculture.....	GILBERT MURRAY.....	1890
Veterinary Hygiene.....	Principals WILLIAMS and WALLEY...	1890
Chemistry as applied to Agriculture	J. AUGUSTUS VOELCKER, B.A., D.Sc.	1890

FOR SCHOOLMASTER'S DIPLOMA.

The Professor of Education and MAURICE PATERSON, B.A., LL.D. 1889

FOR TITLE OF LITERATE IN ARTS.

The Professors of the Subjects, and the Examiners for Degrees in Arts.

—o—

University Librarian.

HUGH ALEXANDER WEBSTER.

Assistants.

ALEXANDER ANDERSON.
JAMES H. S. GREGORY.
DAVID CUTHBERTSON.
CHARLES MARTIN.
GEORGE TAIT.
WILLIAM WRIGHT, *at University New Buildings.*

Keepers of Museums.

Museum of Natural History	Professor EWART.
Anatomical Museum	Professor Sir WM. TURNER.
Assistant	JAMES SIMPSON.

—o—

Joint Factors and Law Agents	JOHN COOK, W.S.; HENRY COOK, W.S.
Auditor	THOMAS GOLDIE DICKSON, C.A.
Clerk of Senatus, and Sec. and Reg. of General Council	THOMAS GILBERT.
Assistant Clerks	JAMES OLIVER SINCLAIR, JAMES DOWIE.
Clerk of Works	ALLAN E. L. CLARK.
Janitor	JOHN CHAPMAN.
Warders	ALEX. ADAIR, JAMES DONALDSON.

Staff of Twelve Servitors.

University of Edinburgh.

—o—

CONSTITUTION.

THE University of Edinburgh has grown into its present status out of what was originally a small College, called the "College of Edinburgh" or "The Town's College," which was founded in 1583 by the Town Council of Edinburgh, under the general powers to found educational institutions granted to them by the Charter of King James VI., dated 14th April 1582. No separate Charter of foundation is now extant; but from the first the College possessed the privilege of conferring degrees. This privilege was ratified by the "Act of Confirmation," an Act of Parliament passed in 1621, which secured to the "College of James VI." (as it had come to be called) all the rights, immunities, and privileges enjoyed by the Universities of Scotland. This ratification was renewed in the Treaty of Union between England and Scotland, and in the Act of Security. Gradually, in Acts of General Assembly, Acts of Town Council, and Acts of Parliament, the "College of James VI." came to be styled "The University of Edinburgh." But the institution remained under the absolute control and patronage of the Town Council of Edinburgh down to 1858, when, by the Universities (Scotland) Act, all the Universities of Scotland received new and autonomous constitutions.

The University of Edinburgh is a Corporation consisting of the Chancellor, Rector, Principal, Professors, Registered Graduates and Alumni, and Matriculated Students; and from 1858 to 1890 its government was vested in the Senatus Academicus, subject to the review and control of the University Court.

By the Universities (Scotland) Act, 1889, the University Court was constituted a body corporate with perpetual succession and a Common Seal; and the whole property, heritable and movable, belonging to the University, at the date of the passing of the Act, was transferred to and vested in the Court, with power to administer and manage the whole revenue and property of the University.

In addition to the various Endowments for Chairs, Fellowships, Scholarships, Bursaries, &c., the University possesses the property of the Old and New University Buildings, with the Libraries, Museums, Laboratories, Specimens, Apparatus, Furnishings, and Fittings; the Music Class Room, containing a large organ, an interesting collection of Acoustic and Antique Musical Instruments, and a valuable Library of Music; and the official residence of the Principal.

The Senatus Academicus, as heretofore, regulates and superintends the teaching and discipline of the University, subject to the provisions of the Universities (Scotland) Acts of 1858 and 1889.

It may be interesting to show the numbers of Matriculated Students in the University, and the numbers of Degrees conferred by the University, immediately before the Acts of 1858 and of 1889 respectively came into operation.

The numbers of Matriculated Students were :—

	Arts.	Divinity.	Law.	Medicine.	Total.
In 1858-59	573	90	237	526	1336
In 1888-89	1022	109	471	1949	3551

The numbers of Degrees conferred were :—

	Arts.	Divinity.	Law.	Medicine.		Science.	
				M.B., C.M.	M.D.	B.Sc.	D.Sc.
In 1859	16	—	—	—	60	—	—
In 1889	116	11	23	210	60	34	2

The Degrees in Divinity, Law, and Science were instituted since 1859.

CHANCELLOR.

The Chancellor is elected for life by the General Council. He is the Head of the University. Changes in its ordinances and in its internal arrangements, proposed or approved by the University Court, must receive his sanction. All Degrees are conferred by him, or his deputy, the Vice-Chancellor. The Chancellor is President of the General Council, and nominates an Assessor in the University Court. The appointments have been as follows:—

Right Hon. Lord Brougham, 1859.
Right Hon. JOHN INGLIS, D.C.L., LL.D., 1868.

VICE-CHANCELLOR.

The Vice-Chancellor is nominated by the Chancellor. He may, in the absence of the Chancellor, confer Degrees, but cannot discharge any other of the Chancellor's duties. In the Vice-Chancellor's absence Degrees are conferred by the Principal, or, in his absence, by the senior member of Senatus present.

Upon the Vice-Chancellor is imposed the duty of acting as Returning Officer at Parliamentary Elections. If there be no Vice-Chancellor at the time of an Election, the University Court appoints one to act as Returning Officer. The appointments have been—

Sir D. Brewster, appointed 1860.
Sir Alexander Grant, Bart., 1868.
Sir WILLIAM MUIR, K.C.S.I., D.C.L., &c., 1885.

RECTOR.

The Rector is elected by the Matriculated Students on the second Saturday after the beginning of the Winter Session. The term of office is three years. The next election will take place in 1893. The Rector is President of the University Court, and nominates an Assessor in the University Court. The appointments have been—

Rt. Hon. W. E. Gladstone, 1859.
Thomas Carlyle, 1865.
Rt. Hon. Lord Moncreiff, 1868.
Sir W. Stirling Maxwell, Bt., 1871.
Rt. Hon. Earl of Derby, 1874.
Most Hon. Marquess of Hartington, M.P., 1877.
Rt. Hon. Earl of Rosebery, 1880.
Rt. Hon. Earl of Iddesleigh, 1883.
Most Hon. Marquess of Lothian, 1887.
Rt. Hon. GEORGE J. GOSCHEN, M.P., 1890.

REPRESENTATIVE IN PARLIAMENT.

In accordance with Clauses 27 to 41 of the "Representation of the People (Scotland) Act," 31 & 32 Vict., cap. 48, the Members of the General Councils of the Universities of Edinburgh and St Andrews elect a Member to serve in Parliament for these Universities.

When a poll is demanded, the votes are given by voting papers issued by the Registrar.

The appointments have been—

Sir Lyon Playfair, K.C.B., LL.D., 1868.

Rt. Hon. J. H. A. Macdonald, C.B., Q.C., LL.D., 1885, 1886.

M. T. Stormonth Darling, Q.C., 1888.

Sir CHARLES JOHN PEARSON, Q.C., 1890.

The Parliamentary constituency for 1891 is as follows :—

Edinburgh	6622
St Andrews	1528
Total in 1891	8150

UNIVERSITY COURT.

The University Court has the following powers conferred by the "Universities Scotland Act, 1858," Sec. xii. :—

1. To review all decisions of the Senatus Academicus, and to be a Court of Appeal from the Senatus in every case, except as otherwise provided in the Universities Act :

2. To effect improvements in the internal arrangements of the University, after due communication with the Senatus Academicus, and with the sanction of the Chancellor ; provided that all such proposed improvements shall be submitted to the general Council for their consideration :

3. To require due attention on the part of the Professors to the Regulations as to the mode of teaching and other duties imposed on the Professors :

4. To fix and regulate, from time to time, the Fees in the several Classes :

5. Upon sufficient cause shewn, and after due investigation, to censure any member of the Senatus Academicus, or to suspend him from his office, and from the emoluments thereof, in whole or in part, for any period not exceeding one year, or to require him to retire from his office on a retiring allowance, or to deprive him of his office ; and during the Suspension of any Professor, to make due provision for the teaching of his class : Provided always that no such sentence of censure, suspension, or deprivation, or requisition on a Professor to retire from office, shall have any effect until it has been approved by Her Majesty in Council :

By Sec. xix. any of the Rules, Statutes, and Ordinances enacted by the Universities Commissioners for the purposes of the Act, may be altered or revoked by the Universit Court of the University to which the same are applicable, but only with the consent, expressed in writing, of the Chancellor thereof, and with the approval of Her Majesty in Council.

By the Universities (Scotland) Act, 1889, Section 5, Sub-section (3), the University Court is a body corporate with perpetual succession and a common seal; and all the property belonging to the University, or to any existing college forming part of the University at the date of the passing of the Act, is thereby declared to be vested in the University Court.

By Section 6 of the last mentioned Act, the University Court, in addition to the powers conferred upon it by the Universities (Scotland) Act, 1858, subject to any ordinances made by the Commissioners, has power—

(1.) To administer and manage the whole revenue and property of the University, and the college or colleges thereof existing at the passing of this Act, including the share appropriated to such University out of the annual grant hereinafter mentioned, and also including funds mortified for bursaries and other purposes, and to appoint factors or collectors, to grant leases, to draw rents, and generally to have all the powers necessary for the management and administration of the said revenue and property:

(2.) To review any decision of the Senatus Academicus on a matter within its competency which may be appealed against by a member of the Senatus, or other member of the University having an interest in the decision, within such time as may be fixed by the Commissioners, and to take into consideration all representations and reports made to it by the Senatus Academicus and by the general council:

(3.) To review, on representation made by any of its members, or by any member of the Senatus Academicus, within such time as may be fixed by the Commissioners, any decision which the Senatus Academicus may come to in the exercise of its powers under section seven, sub-section one: Provided always, that the University Court shall not review any decision of the Senatus Academicus in a matter of discipline, except upon appeal taken either by a member of the Senatus or by a member of the University directly affected by such decision:

(4.) To appoint professors whose chairs are, or may come to be, in the patronage of the University; to appoint examiners and lecturers; and to grant recognition to the teaching of any college or individual teacher for the purposes of graduation, under any regulations on the subject laid down by the Commissioners, which regulations after the expiration of their powers may from time to time be modified or altered by the Universities Committee:

(5.) To define on application by any member of the Senatus Academicus the nature and limits of a professor's duties under his commission, subject to appeal to the Universities Committee:

(6.) To take proceedings against a principal or professor, University lecturer, assistant, recognised teacher or examiner, or any other person employed in teaching or examining under section twelve, sub-section five, of the Universities (Scotland) Act, 1858, without the necessity of any one not a member of the Court appearing as prosecutor, and for the purposes of such proceedings to call before it any member of the University to give evidence, and to require the production of documents, and also to institute and conduct any such inquiries as it may deem necessary:

(7.) To appoint from among members of the University or others, not being members of the Senatus Academicus, one third of the members of any standing committee or committees charged, by ordinance of the Commissioners under this Act, with the immediate superintendence of any libraries or museums, or the contents thereof, belonging to the University and college or colleges thereof existing at the passing of this Act, and on representation made by any of its members, or by any member of the Senatus Academicus, to review any decision which the Senatus Academicus, in the exercise of its powers, may come to in respect of the recommendations of such committee or committees:

(8.) To appoint committees of its own number consisting of not less than five members, with powers to report on any business that may be entrusted to them by the University Court, or to carry out special instructions ordered by the University Court:

(9.) To elect the representative of the University on the General Medical Council, under the Medical Act, 1886:

(10.) After the expiration of the powers of the Commission to found new professorships with the approval of the Universities Committee, and after such expiration no new professorship shall be founded except as herein [in the Act of 1889] provided.

After the expiration of the powers of the Commissioners, the University Court, by Section 21, shall have power to make such ordinances as they think fit, with the approval of Her Majesty in Council:

(1.) With respect to the appropriation of the sum allotted to such University by the Commissioners out of the annual grant hereinafter referred to;

(2.) Altering or revoking any of the ordinances affecting such University which have been or may be framed and passed under the Universities (Scotland) Act, 1858, or this Act, and making new ordinances:

Provided that such ordinances, before being submitted to Her Majesty for approval, shall have been communicated by the University Court to the Senatus Academicus and to the General Council, whose opinion thereon, if returned to the University Court within one month, shall have been taken into consideration; provided also that the said ordinances, when finally adjusted by the University Court, shall have been communicated to the University Courts of the other Universities, and that, if notice of dissent to such ordinances shall have been taken by any University Court, or by any person directly affected by such ordinance, to the University Court making such ordinances within one month after the receipt thereof, the dissenting University

Court or person may within one month after notifying dissent make a representation in regard thereto to Her Majesty in Council; provided further that no ordinance made under this section shall be of any validity until it has been approved by Her Majesty in Council, and that it shall be lawful for Her Majesty to refer such ordinances to the Universities Committee, who shall report to Her Majesty thereon: Provided further, that such ordinances shall be laid before both Houses of Parliament in the manner provided by section twenty of this Act: Provided further, that in computing the period of one month for the purposes of this section, the months of August and September shall not be counted, nor any part thereof.

Stated Meetings of the Court are held for the despatch of ordinary business on the Monday occurring during the seven days beginning on the 12th and ending on the 18th, both days inclusive, of each month, excepting the months of August and September, and on the first Monday after 19th January, if necessary, for hearing Registration Appeals. Other Ordinary Meetings may be called as the Court may direct. Special Meetings may at any time be called by order of the Rector or the Principal, or by the Secretary on a requisition specifying the object, signed by at least three members of the Court. Appointments of Examiners in the Faculties of Divinity, Law, and Medicine, and in Science are made at the monthly meeting in January; and of Examiners in Arts at the monthly meeting in July. Appointments of Class Assistants are required to be submitted for approval on the third Monday in November. Appointments of Assistant Registrars are made on the third Monday of January.

The University Court holds the patronage of the Chair of Music, and, in conjunction with the President of the Royal Scottish Academy, that of the Chair of Fine Art, as well as a share in the patronage of the Chair of Agriculture. It also elects three of the seven Curators, and appoints the Additional Examiners for Degrees in Arts, Science, Divinity, Law, and Medicine, and the Examiner for the Schoolmaster's Diploma. The appointments of those Assistants to Professors provided for by Ordinance of the Universities Commissioners are subject to its approval.

The Court consists of the following members, viz. :—1. The Rector; 2. The Principal; 3.The Lord Provost of Edinburgh for he time being; 4. An Assessor nominated by the Chancellor;

5. An Assessor nominated by the Rector; 6. An Assessor nominated by the Lord Provost, Magistrates, and Town Council of Edinburgh; 7. Four Assessors elected by the General Council; 8. Four Assessors elected by the Senatus Academicus; 9. Such number, not exceeding four in all, of representatives of affiliated Colleges as may be appointed under and subject to the arrangements made in terms of section fifteen, sub-section (4), of the Act of 1889: Provided always, that the total number of representatives of affiliated Colleges in the University Court of any University may be increased by the Commissioners or, after the expiration of their powers, by the Universities Committee, if in their opinion respectively special circumstances should arise to require such increase.

Seven members constitute a quorum. No Principal or Professor of any Scottish University is eligible for the office of Rector. The Rector and his Assessor continue in office for three years; but in the event of the Chancellor or Rector ceasing to hold office, his Assessor continues to be a member of the University Court until an Assessor is nominated by the new Chancellor or Rector. The other Assessors continue in office for four years; but all Assessors are eligible for re-election, and no Principal or Professor of any Scottish University is eligible for election as Assessor to any other person or body than the Senatus Academicus. The Rector, and in his absence the Principal, presides at meetings of the University Court, and in the absence of both of them a chairman for the time is elected by the meeting. The person presiding at any meeting of the University Court has a deliberative vote, and also a casting vote in case of equality.

An abstract of the proceedings of the Court is given in a subsequent part of the Calendar.

The names of the present Assessors are given at page 1. The names of the Assessors previously to 1888 will be found in the Historical Appendix to List of University Graduates, published in 1889 (page 105). Former Assessors since 1888 — *Chancellor's Assessor*, T. Graham Murray, LL.D., 1887-1891. *Senatus Academicus' Assessor*, A. Campbell Fraser, D.C.L., LL.D., 1877-1891.

UNIVERSITIES COMMITTEE OF PRIVY COUNCIL.

There shall be a Committee of Her Majesty's Privy Council styled the Scottish Universities Committee of the Privy Council.

The Universities Committee shall consist of the Lord President of the Privy Council, the Secretary for Scotland, the Lord Justice General, if a member of the Privy Council, the Lord Justice Clerk, if a member of the Privy Council, the Lord Advocate, if a member of the Privy Council, the Chancellor of each of the Universities, if a member of the Privy Council, the Lord Rector of each of the Universities, if a member of the Privy Council, one member at least of the Judicial Committee of the Privy Council, and such other member or members of the Privy Council as Her Majesty may from time to time think fit to appoint.

The powers and duties of the Universities Committee may, subject to any rules or regulations which may from time to time be passed by Her Majesty in Council, be exercised and discharged by any three or more of the members of the Committee, one of whom shall be a member of the Judicial Committee of the Privy Council or one of Her Majesty's Senators of the College of Justice in Scotland.

CURATORS OF PATRONAGE.

By the Universities (Scotland) Act (1858), the patronage of the seventeen Chairs, previously in the gift of the Town Council, was transferred to seven Curators—three nominated by the University Court, and four by the Town Council. Besides these seventeen Chairs, the Curators have also a share in the patronage of those of Humanity, Agriculture, Civil Law, History, Celtic Languages and Literature, Law of Scotland, and Conveyancing, which was formerly possessed by the Town Council. The Curators hold office for three years. The names of the present Curators are given at page 2. The names of the former Curators will be found in the Historical Appendix to List of University Graduates published in 1889 (pages 105 and 106).

FORMER ASSESSOR SINCE 1888.

Elected by University Court.

T. GRAHAM MURRAY, W.S., LL.D., 1884-91.

REPRESENTATIVE IN GENERAL MEDICAL COUNCIL.

In accordance with the Medical Act of 1858, the Universities of Edinburgh and Aberdeen were entitled jointly to elect a Member of the "General Council of Medical Education and Registration of the United Kingdom." The appointments have been—

1858. James Syme.
1868. John Macrobin, M.D.
1873. William Turner, M.B.
1883. John Struthers, M.D.

Under the provisions of the Medical Act of 1886, Professor Sir William Turner was appointed in December 1886 for a period of five years, as representative of the University of Edinburgh.

1886. Sir WILLIAM TURNER, M.B., LL.D.

From 1858 to 1890 the Senatus exercised the right of election of the Representative of the University in the General Medical Council. By the Act of 1889, the Court is empowered to elect the Representative in future.

PRINCIPAL.

The Principal, formerly elected by the Town Council, is now appointed by the Curators. The office is held for life. The Principal is the resident Head of the College, and President of the Senatus Academicus; and, in the absence of the Rector, he presides at the meetings of the University Court, and in the absence of the Chancellor and Rector he presides at the Statutory Meetings of the General Council, and also at the Special Meetings, excepting those for the election of Assessors.

PRINCIPALS ELECTED SINCE 1586.

1586. Robert Rollock, *previously Regent*
1599. Henry Charteris
1620. Patrick Sands
1622. Robert Boyd
1623. John Adamson
1653. Robert Leighton
1662. William Colvill
1675. Andrew Cant
1685. Alexander Monro
1690. Gilbert Rule
1703. William Carstares

1716. William Wishart
1730. William Hamilton
1732. James Smith
1736. William Wishart, *secundus*
1754. John Gowdie
1762. William Robertson
1793. George Husband Baird
1840. John Lee
1859. Sir David Brewster
1868. Sir Alexander Grant, Bart.
1885. Sir Wm. Muir, K.C.S.I.

SENATUS ACADEMICUS.

The Principal and the Professors constitute the Senatus Academicus. This body is entrusted with the superintendence and regulation of the teaching and discipline of the University. The Senatus elects four Assessors in the University Court who hold office for four years. Two retire biennially, but may be re-elected; and in the event of a casual vacancy, the person elected to fill such vacancy shall go out of office at the date when the person whom he succeeded would in the ordinary rotation have retired. It appoints two-thirds of the members of any standing committee or committees charged by ordinance of the Commissioners with the immediate superintendence of any libraries or museums, or the contents thereof, belonging to the University and college or colleges thereof existing at the passing of this Act; and receives in the first instance all reports by such committee or committees, and subject to the review of the University Court, confirms, modifies, or rejects the recommendations in such reports. It also elects a representative in the General Assembly of the Church of Scotland; two Managers of the Royal Infirmary; two Governors of George Heriot's Trust; two Governors of Morrison's Academy, Crieff; two Governors of the Spence Bursary Trust; one Governor of Dollar Institution; one Governor of Stiell's Hospital, Tranent. Degrees in Arts, Divinity, Law, Medicine, and Science are conferred, on the recommendation of the Senatus, by the Chancellor or Vice-Chancellor, and in the absence of both, by the Principal or senior Professor present. The Principal is President, with a deliberative and also a casting vote. In the absence of the Principal, the Senior Professor present acts as Chairman, also with a double vote. The

Ordinary Meetings of Senatus are held on the Monday in October immediately preceding the opening of the Session, the last Saturday of November, January, February, and March; on the Saturday immediately preceding the Christmas holidays; on the last Friday of May, June, and July; on 1st August, not being a Sunday (for conferring Degrees in Law, Medicine, Science, &c.); and in April (for Degrees in Arts, Divinity, Law, &c.), on a day fixed at the Meeting in the January of the preceding year. Extraordinary Meetings may be called by the Principal or by three Professors. One-third of the Senatus constitutes a quorum.

The business of the Senatus is conducted by the Secretary, who, among other duties, summons the Meetings, prepares the Minutes, and intimates business assigned to the Principal, to the Deans of Faculties, or to the Conveners of Committees. The Secretary also administers the *Sponsio Academica* to Graduates.

FACULTIES.

The University contains four Faculties, and a Science Degrees Committee. Each Faculty is presided over by a Dean, who is elected from among the Professors of the Faculty, with the approval of the Senatus. Persons recommended for Degrees in each Faculty are presented to the Senatus by the Dean to whom all communications regarding the administration of the Faculty should be addressed. Persons recommended for Degrees in Science are presented by the Convener of the Section in which the Degrees are conferred. The Deans of the Faculties are mentioned at pp. 2, 3, and 4.

FACULTY OF ARTS.

The Faculty of Arts, the most ancient in the University, comprehends the Chairs of Humanity (Latin), Mathematics, Greek, Logic and Metaphysics, Moral Philosophy, Natural Philosophy, and Rhetoric and English Literature. Attendance on these Classes only is at present required for the Degree of Master of Arts.

To the Faculty of Arts also belong the Chairs of History (in conjunction with the Faculty of Law), Practical Astronomy, Agriculture, Music, Sanskrit, Civil Engineering, Geology, Political Economy (in conjunction with the Faculty of Law), Theory of Education, Fine Art, and the Celtic Languages and Literature.

REGENTS AND PROFESSORS IN THE FACULTY OF ARTS SINCE 1583.

Regents of Philosophy from 1583 *to* 1708.

[*The Regents of Philosophy taught in rotation the four classes in the Curriculum of Arts, the "Bajans," the "Semi-Bajans," the "Bachelors," and the "Magistrands," as the Students of the first, second, third, and fourth year were respectively styled. Each Regent therefore taught every subject in the Curriculum—the Regent of Humanity being subordinate to the Regent of Philosophy, and being employed as a tutor in Classics for Unmatriculated Students. In* 1708 *the system was changed, and separate Professors for Latin, Greek, Logic and Metaphysics, Moral Philosophy and Natural Philosophy, were substituted for the Regents. A Professorship of Mathematics had previously existed.*]

1583. Robt. Rollock, *first Regent*
1583. Duncan Nairn
1585. Charles Lumisdaill
1586. Adam Colt
1586. Alexander Scrimgeour
1587. Philip Heslop
1588. Charles Ferme or Fairholm
1589. Henry Charteris
1589. Patrick Sands
1594. George Robertson
1597. William Craig
1597. John Adamson
1598. James Knox
1598. Robert Scott
1601. Andrew Young
1603. James Reid
1604. David Munro
1606. Blase Colt
1607. James Fairley
1608. William King
1611. Andrew Stevenson
1625. Samuel Rutherford
1625. Robert Ranken
1626. Thomas Crawford
1626. John Brown
1631. Alexander Hepburn
1636. James Wyseman
1638. James Wright
1638. Robert Young
1639. Duncan Forrester
1644. William Tweedie
1644. James Pillans
1647. Andrew Suttie
1653. John Wishart
1665. George Sinclair
1666. John Wood
1667. William Paterson
1679. Gilbert M'Murdoch
1679. Andrew Massie
1680. Alexander Cockburn
1682. Robert Lidderdail
1684. Herbert Kennedy
1686. Thomas Burnet
1689. Alexander Cunningham
1690. William Law
1695. John Row
1695. William Scott
1701. Charles Areskine
1703. Robert Stewart
1707. Colin Drummond

Regents of Humanity from 1597 *to* 1708.

1597. John Ray
1606. Blase Colt

1611. Oliver Colt
1611. Robert Burnet
—— Andrew Stevenson
1623. Samuel Rutherford
1626. Thomas Craufurd
1630. John Armour
1633. Alexander Gibson
1636. James Wyseman
1638. Robert Young
1644. James Pillans
1653. John Wishart
1656. William Forbes
1656. James M'Gowan
1658. Hugh Smith
1663. William Cumming
1665. Andrew Ross
1665. Thomas Bell
1676. Gilbert MacMurdo
1679. Alexander Cunningham
1689. John Drummond

Professsors of Mathematics since 1620.

1620. Andrew Young
1640. Thomas Craufurd
1674. James Gregory
1683. David Gregory
1692. James Gregory
1725. Colin M'Laurin
1747. Matthew Stewart
1775. Dugald Stewart
1785. Adam Ferguson
1785. John Playfair
1805. John Leslie
1819. William Wallace
1838. Philip Kelland
1879. GEORGE CHRYSTAL

Professors of Humanity since 1708.

1708. Laurence Dundas
1728. Adam Watt
1734. John Kerr
1741. George Stuart
1775. John Hill
1806. Alexander Christison
1820. James Pillans
1863. William Young Sellar
1891.

Professors of Greek since 1708.

1708. William Scott, *one of the Regents*
1729. William Scott, *secundus*
1730. Colin Drummond
1738. Robert Law
1741. Robert Hunter
1772. Andrew Dalziel
1805. George Dunbar
1852. John Stuart Blackie
1882. SAMUEL HENRY BUTCHER

Professors of Logic and Metaphysics since 1708.

1708. Colin Drummond, *one of the Regents*
1730. John Stevenson
1774. John Bruce
1786. James Finlayson
1808. David Ritchie
1836. Sir Wm. Hamilton, Bart.
1856. Alexander Campbell Fraser
1891.

Professors of Moral Philosophy since 1708.

1708. William Law, *one of the Regents*
1729. William Scott
1734. John Pringle
1745. William Cleghorn
1754. James Balfour
1764. Adam Ferguson
1785. Dugald Stewart
1810. Thomas Brown
1820. John Wilson
1853. P. C. M'Dougall
1868. HENRY CALDERWOOD

Professors of Natural Philosophy since 1708.

1708. Robert Stewart, *one of the Regents*
1742. John Stewart
1759. Adam Ferguson

1764. James Russell
1774. John Robison
1805. John Playfair
1819. Sir John Leslie
1833. James David Forbes
1860. PETER GUTHRIE TAIT

Professors of Rhetoric and English Literature since 1762.

1762. Hugh Blair
1784. William Greenfield
1801. Andrew Brown
1835. George Moir
1840. William Spalding
1845. William Edmondstoune Aytoun
1865. DAVID MASSON

Professors of History since 1719.
(See Faculty of Law.)

Professors of Practical Astronomy since 1786.

1786. Robert Blair
1834. Thomas Henderson
1846. Charles Piazzi Smyth
1889. RALPH COPELAND

Professors of Agriculture since 1790.

1790. Andrew Coventry
1831. David Low
1854. John Wilson
1885. ROBERT WALLACE

Professors of the Theory of Music since 1839.

1839. John Thomson.
1841. Sir Henry Rowley Bishop
1844. Henry Hugh Pearson
1845. John Donaldson
1865. Sir Herbert Stanley Oakeley
1891.

Professor of Technology.

1855. George Wilson
[Chair abolished 1859.]

Professors of Sanskrit since 1862.

1862. Theodor Aufrecht
1875. JULIUS EGGELING

Professors of Engineering.

1868. Fleeming Jenkin
1885. GEORGE FREDERICK ARMSTRONG

Professors of Geology.

1871. Archibald Geikie
1882. JAMES GEIKIE

Professors of Commercial and Polit. Economy and Mercantile Law.
(See also Faculty of Law.)

1871. W. B. Hodgson
1880. JOSEPH SHIELD NICHOLSON

Professor of Education.

1876. SIMON SOMERVILLE LAURIE

Professor of Fine Art.

1880. GERARD BALDWIN BROWN

Professor of Celtic Languages, &c.

1882. DONALD MACKINNON

FACULTY OF DIVINITY.

This Faculty, the second in chronological order, comprehends the four Chairs of Divinity, Hebrew and Oriental Languages, Divinity and Ecclesiastical History, and Biblical Criticism and Antiquities.

PROFESSORS IN THE FACULTY OF DIVINITY SINCE 1620.

Professors of Divinity since 1620.

1620. Andrew Ramsay
1627. Henry Charteris
1629. James Fairly
1630. John Sharpe
1648. Alexander Colvill
1649. Samuel Rutherford
1650. David Dickson
1662. Patrick Scougall
1664. William Keith
1675. Laurence Charteris
1682. John Menzies
1683. John Strachan
1690. George Campbell
1701. George Meldrum
1709. William Hamilton
1732. James Smith
1733. John Gowdie
1754. Robert Hamilton
1779. Andrew Hunter
1809. William Ritchie
1828. Thomas Chalmers
1844. John Lee
1859. Thomas J. Crawford
1876. ROBERT FLINT

Professors of Hebrew and Oriental Languages since 1642.

1642. Julius Conradus Otto
1656. Alexander Dickson
1679. Alexander Amedeus
1681. Alexander Douglas
1692. Patrick Sinclair
1694. Alexander Rule
1702. John Goodall
1719. James Crawford
1732. William Dawson
1751. James Robertson
1792. George Husband Baird
1793. William Moodie
1812. Alexander Murray
1813. Alexander Brunton
1848. David Liston
1880. DAVID LAIRD ADAMS

Professors of Divinity and Church History since 1695.

1702. John Cumming
1715. William Dunlop
1726. Matthew Crawford
1737. Patrick Cumming
1762. Robert Cumming
1788. Thomas Hardie
1799. Hugh Meiklejohn
1831. David Welsh
1844. James Robertson
1861. William Stevenson
1872. Robert Wallace
1876. MALCOLM CAMPBELL TAYLOR.

Professors of Biblical Criticism and Biblical Antiquities since 1846.

1847. Robert Lee
1868. ARCHIBALD HAMILTON CHARTERIS

FACULTY OF LAW.

To this Faculty belong seven Chairs, viz.:—Public Law, Civil or Roman Law, Constitutional Law and History (in conjunction with the Faculty of Arts), Law of Scotland, Medical Jurisprudence (in conjunction with the Faculty of Medicine), Conveyancing, and Commercial and Political Economy and Mercantile Law (in conjunction with the Faculty of Arts). Attendance on these classes is required by Candidates for Degrees in Law.

PROFESSORS IN THE FACULTY OF LAW SINCE 1707.

Professors of Public Law since 1707.

1707. Charles Areskine
1734. William Kirkpatrick
1735. George Abercrombie
1759. Robert Bruce
1764. James Balfour
1779. Allan Maconochie
1796. Robert Hamilton
1832. * * *
1862. James Lorimer
1890. Sir LUDOVIC GRANT, Bt.

Professors of Civil Law since 1710.

1710. James Craig
1732. Thomas Dundas
1745. Kenneth M'Kenzie
1755. Robert Dick
1792. John Wilde
1800. Alexander Irving
1827. Douglas Cheape
1842. A. Campbell Swinton
1862. James Muirhead
1889. HENRY GOUDY

Professors of History since 1719.

1719. Charles Mackie
1753. John Gordon
1754. William Wallace
1755. John Pringle
1780. Alex. Fraser Tytler
1801. William Fraser Tytler
1821. Sir William Hamilton
1837. George Skene
1842. James Frederick Ferrier
1846. Cosmo Innes
1874. Æneas J. G. Mackay
1881. JOHN KIRKPATRICK

Professors of the Law of Scotland since 1722.

1722. Alexander Bayne
1737. John Erskine
1765. William Wallace
1786. David Hume
1822. George Joseph Bell
1843. John Schank More
1861. George Ross
1864. George Moir
1865. Norman Macpherson
1888. JOHN RANKINE

Professors of Medical Jurisprudence since 1807.

1807. Andrew Duncan, *secundus*
1820. William Pulteney Alison
1822. Robert Christison
1832. Thomas Stewart Traill
1862. Sir DOUGLAS MACLAGAN

Professors of Conveyancing since 1825.

1825. Macvey Napier
1847. Allan Menzies
1856. A. Montgomerie Bell
1866. JAMES STUART FRASER TYTLER

Professors of Commercial and Political Economy since 1871.[1]

1871. W. B. Hodgson, and re-appointed 1878.
1880. JOSEPH SHIELD NICHOLSON, re-appointed 1887.

FACULTY OF MEDICINE.

The Faculty consists of the following twelve Chairs:—Botany, Institutes of Medicine, Practice of Physic, Anatomy, Chemistry, Midwifery, Natural History, Materia Medica, Clinical Surgery,

[1] This Chair was declared to be a Professorship in the Law as well as in the Arts Faculty by resolution of the Senatus Academicus in 1879.

Medical Jurisprudence (in conjunction with the Faculty of Law), Surgery, and General Pathology. The Professors of Practice of Physic, Materia Medica, and Pathology, are also Professors of Clinical Medicine. Some of these Chairs were instituted in the seventeenth century, but it does not appear that the Medical School and Faculty of the University was established earlier than the beginning of last century.

PROFESSORS IN THE FACULTY OF MEDICINE SINCE 1676.

Professors of Botany since 1676.

1676. James Sutherland
1706. Charles Preston
1712. George Preston

Professors of Medicine and Botany.

1738. Charles Alston
1761. John Hope
1786. Daniel Rutherford
1820. Robert Graham
1845. John Hutton Balfour
1879. Alexander Dickson
1888. ISAAC BAYLEY BALFOUR

Professors of Medicine in 1685.

1685. Sir Robert Sibbald, James Halket, Archibald Pitcairne

Professors of Institutes of Medicine since 1724.

1724. William Porterfield
1726. Andrew St Clair, John Rutherford
1747. Robert Whytt
1766. William Cullen
1773. Alex. Monro Drummond
1776. James Gregory
1789. Andrew Duncan
1819. Andrew Duncan, *secundus*
1821. William Pulteney Alison
1842. Allen Thomson
1848. John Hughes Bennett
1874. WILLIAM RUTHERFORD

Professors of Practice of Physic since 1724.

1724. William Porterfield
1726. Andrew St Clair, John Rutherford
1747. Robert Whytt
1766. John Gregory
1773. William Cullen
1790. James Gregory
1821. James Home
1842. William Pulteney Alison
1855. Thomas Laycock
1876. THOMAS GRAINGER STEWART

Professors of Anatomy since 1705.

1705. Robert Elliot
1708. Adam Drummond
1716. John M'Gill
1720. Alexander Monro
1754. Alex. Monro, *secundus*
1798. Alexander Monro, *tertius*
1846. John Goodsir
1867. Sir WILLIAM TURNER

Professors of Chemistry and Medicine since 1713.

1713. James Crawford
1726. Andrew Plummer
1726. John Innes
1755. William Cullen
1766. Joseph Black
1795. Thomas Charles Hope

Professors of Chemistry.

1844. William Gregory
1858. Lyon Playfair
1869. Alex. Crum Brown

Professors of Midwifery since 1726.

1726. Joseph Gibson
1739. Robert Smith
1756. Thomas Young
1780. Alexander Hamilton
1800. James Hamilton
1840. Sir J. Y. Simpson, Bart.
1870. Alexander Russell Simpson

Professors of Natural History since 1767.

1770. Robert Ramsay
1779. John Walker
1804. Robert Jameson
1854. Edward Forbes
1855. George James Allman
1870. Sir Wyv. T. C. Thomson
1882. James Cossar Ewart

Professors of Materia Medica since 1768.

1768. Francis Home
1798. James Home
1821. Andrew Duncan, *secundus*
1832. Sir Robt. Christison, Bart.
1877. Thomas Richard Fraser

Professors of Clinical Surgery since 1803.

1803. James Russell
1833. James Syme
1869. Joseph Lister
1877. Thomas Annandale

Professors of Military Surgery since 1806.

1806. John Thomson
1823. Sir George Ballingall
[Chair abolished.]

Professors of Medical Jurisprudence since 1807.
[See Faculty of Law.]

Professors of Surgery since 1777.

1777. Alex. Monro, *secundus*
1798. Alexander Monro, *tertius*
1831. John William Turner
1836. Sir Charles Bell
1842. James Miller
1864. James Spence
1882. John Chiene

Professors of General Pathology since 1831.

1831. John Thomson
1842. William Henderson
1869. W. R. Sanders
1881. William Smith Greenfield

ASSISTANTS TO PROFESSORS.

In the Faculty of Arts there are Assistants to the Professors of Humanity, Greek, Mathematics, and Natural Philosophy, appointed under Ordinance No. 23. In the Faculty of Medicine there are Assistants to the Professors of Anatomy, Chemistry, Materia Medica, and Medical Jurisprudence, also appointed under that ordinance. The Professors of Logic, Moral Philosophy, Rhetoric and English Literature, Natural Philosophy, Engineering, Geology, Hebrew and Oriental Languages, Scots

Law, Civil Law, Conveyancing, Botany, Natural History, Institutes of Medicine, Practice of Physic, Surgery, Midwifery, Clinical Medicine, Clinical Surgery and Pathology, also have Assistants, provided by the University. The Assistants are appointed annually by the respective Professors, subject to the approval of the Senatus Academicus and of the University Court.

GENERAL COUNCIL OF THE UNIVERSITY.

The Chancellor, the Members of the University Court, the Professors, the Graduates, and all persons who previous to 2d August 1861 had, as Matriculated Students, given regular attendance on the course of study in the University for four complete Sessions, or for three complete Sessions in this, and a fourth in another Scottish University—the attendance for at least two of such sessions having been on the course of study in the Faculty of Arts, are entitled to be registered as Members of the General Council. The fee for registration is £1.

The Register for the current year contains 6622 Members, and is conclusive of the rights of persons to be Members up to 1st January 1891. By the Universities Elections Amendment (Scotland) Act all candidates for graduation are required to pay the Registration Fee before they can be allowed to appear for graduation.

Under the Universities (Scotland) Act of 1858, and the Commissioners' Ordinance No. 1, section 3, following thereon, the Council meets twice a-year—viz., on the *first Tuesday after the fourteenth day of April*, and on the *last Friday in October*, at three o'clock, "*to take into their consideration* all questions affecting the well-being and prosperity of the University, and to *make representations from time to time on such questions* to the *University Court*, who shall consider the same, and return to the Council their deliverance thereon." All proposed improvements in the internal arrangements of the University "shall be submitted to the University Council for their consideration."

By the Universities (Scotland) Act, 1889, in addition to the

two statutory meetings above mentioned, the Council "may hold special meetings at the instance of the Chancellor, who shall convene such meetings on a requisition from a quorum of members, and the Council may adjourn any meeting, and may appoint Committees to investigate into and report upon any matter remitted to them or to carry out instructions given to them by the Council."

The Universities Commissioners under the last-mentioned Act have fixed the quorum of the General Council at ten for every complete thousand or fraction of a thousand on the register of the members, but this provision does not apply to the statutory half-yearly meetings.

The Universities Commissioners are empowered by section 14, sub-section (2), of the last mentioned Act, to regulate the powers, duties, jurisdictions, and privileges of the General Council.

The Chancellor is by statute President of the Council; and in his absence, the Rector; whom failing, the Principal or Senior Professor present is President of the statutory and special meetings (excepting as after mentioned), with a deliberative and also a casting vote.

At the meetings for the Election of Assessors in the University Court, if the Chancellor and Rector are both absent, the Chancellor's Assessor (if a member of the General Council), and in his absence the Rector's Assessor (if a member of the General Council), is Chairman, and in the absence of all the said officials, a Chairman is elected by the meeting. The Chairman has a deliberative and a casting vote.

The General Council of this University, and the General Council of the University of St Andrews jointly, return a Member of Parliament.

The *Chancellor* and *four of the Assessors* in the University Court are elected by the Council. The Chancellor holds office for life, and the Assessors for four years from the date of Election. Two of the Assessors retire biennially, but may be re-elected. In the event of a casual vacancy the person elected to fill such vacancy retires from office at the date when the person whom

he succeeded would in the ordinary rotation have retired. No member of the Senatus Academicus of any University is entitled to vote or take part in the election of any Assessor of the General Council of that University. The next election of two Assessors may take place on 30*th October* 1891, at 3 P.M.

Members of General Council are entitled to the use of the University Library on payment of an annual fee of 10s. 6d., or they may compound for such annual fee by one payment of £5, 5s.

STUDENTS' REPRESENTATIVE COUNCIL.

The Universities Commissioners are empowered to lay down regulations for the constitution and functions of a Students Representative Council in the University, and to frame regulations under which that Council shall be entitled to make representations to the University Court. The Rector may, before he appoints his Assessor, confer with the Students' Representative Council.

MATRICULATION.

University Matriculation consists in the signing of the Sponsio Academica by Students, thus entering their names in the General Roll of Students of the University, and in paying a fee of £1 for the academic year (1st October to 1st October), or a fee of 10s. for a Summer Session (1st May to 1st October). Matriculation is necessary before a Student can enter any of the Classes in the University, excepting certain additional courses after mentioned.

Matriculated Students may be members of any of the four Faculties. They have the privilege of electing the Rector of the University. In case of an equality of votes, the Chancellor, or failing him, the Principal, has the casting vote. Students also enjoy the right of admission to the University Library, and on certain days to the Museum of Natural History. Their names are preserved in the General Album, which is the legal register of attendance at the University.

All Candidates for Graduation in Law, in Medicine and Surgery, and in Science, not Students of the University, availing themselves of the permission to attend the Lectures of Extra-

Academical Teachers in Edinburgh, must, at the beginning of each year of such attendance, enrol their names in a book to be kept by the University for that purpose, paying a Fee of the same amount as the Matriculation Fee paid by Students of the University, and having in respect of such payment, a right to the use of the Library of the University.

The following is the Sponsio Academica signed by students on matriculating—

QUOD FAUSTUM FELIXQUE SIT. A. D.——

Ego Universitatis Academicae Edinburgensis Discipulus sinceré ac sancté promitto quod et syngraphâ hac meâ in perpetuum testatum cupio, mihi ante omnia cordi ac curae futurum verae pietatis studium ; me etiam in assuetis academici curriculi studiis sedulum fore, ut adolescentem bene institutum decet ; et quamdiu in illo curriculo permansero praeceptoribus omnibus morigerum memet praestiturum, nec ullius dissidii aut tumultus clam palamve vel auctorem vel participem futurum, et per reliquam vitam Universitatem Academicam Edinburgensem ipsam grato et benevolo animo prosecuturum, idque omnibus officiis pro facultate mea et occasione data testaturum esse.

MATRICULATIONS (1st May 1890 to 1st May 1891).

FOR SUMMER SESSION :—		
I. Faculty of Arts	22	
II. Faculty of Law	7	
III. Faculty of Medicine	68	
	——	97
FOR ACADEMIC YEAR :—		
I. Faculty of Arts	921	
II. Faculty of Divinity	112	
III. Faculty of Law	465	
IV. Faculty of Medicine	1914	
	——	3412
Total Matriculations from May 1890 to May 1891		3509

The Senatus Academicus may, with the approval of the University Court, sanction the admission of persons who are not Matriculated Students of the University to any Course of Lectures in the University not included in the Course of Study

for Graduation in any Faculty, on payment to the General University Fund of an Entrance Fee of Five Shillings in addition to the authorised Class Fee; but such payment shall not entitle such person to any other University privilege. The Courses which at present may be attended under this Regulation are :—

Constitutional Law and History, short additional Courses on.
Engineering, short additional Courses on.
Fine Art, short additional Courses on.
Economic History, short Courses on (in connection with Political Economy).
Civil and Criminal Procedure.
Do. Practical Class.
Mental Diseases.
Diseases of the Eye.
Clinical Instruction on Diseases of Children.
Comparative Embryology.
Forestry.
Agricultural Entomology.

Other Courses may from time to time be sanctioned under this Regulation.

Students are subject to the disciplinary jurisdiction of the Professors and of the Senatus Academicus. Among offences liable to be visited with severe academic penalties may be mentioned riotous or disorderly conduct within or without the University Buildings, copying at examinations, and mutilating or disfiguring books belonging to the University Library.

UNIVERSITY EXAMINERS,

FOR DEGREES.[1]

I. *Faculty of Arts.*—The Examiners for the Degree in Arts are the seven Professors whose classes are embraced in the Curriculum; and, in addition, three persons (Members of a Scottish University Council, but not Professors or Assistant Professors in any Scottish University) appointed (each for three years) by the University Court, in whose appointment regard must be had to their eminence in Classical Literature, Mental

[1] For Regulations as to time of appointment and Substitutes for absent Examiners, *see* p. 35. For names of former Examiners, *see* Historical Appendix to List of University Graduates, published in 1889, pp. 111 and 112. For names of the present Examiners, *see* pp. 5 and 6 hereof.

Philosophy, and Mathematical Science, respectively. No Examiner can be re-appointed till he has ceased to hold office for a year. Candidates for Honours in Natural Science are examined by the Professors of Natural History, Chemistry, Botany, and Geology.

II. *Faculty of Divinity.*—The Examiners for the Degree of Bachelor in Divinity are the four Professors of the Faculty, together with two Examiners appointed by the University Court for the term of three years.

III. *Faculty of Law.*—The Examiners for the Degrees of Bachelor of Laws (LL.B.) and Bachelor of Law (B.L.) are the seven Professors of the Faculty, two Examiners selected by the University Court from those who have graduated in Laws and an Examiner in French and German.

IV. *Faculty of Medicine.*—The Examiners for Degrees in Medicine are the Professors in the Faculty, with the addition of twelve persons appointed annually by the University Court. The Preliminary Examination of Candidates for Medical Degrees is conducted by the Examiners in Arts, and an Examiner in French and German, with some of the Medical Examiners.

V. *Degrees in Science.*—The Examiners for Degrees in Science are:—*Preliminary Examination*—The Examiners for Degrees in Arts, and an Examiner in French and German. *Mental Science*—The Professors of Logic and Metaphysics, and of Moral Philosophy. *Philology*—The Professors of Humanity, Greek, Hebrew and Oriental Languages, and of Sanskrit and Comparative Philology. *Physical and Natural Science*—The Professors of Mathematics, Natural Philosophy, Chemistry, Botany, Natural History, Physiology, and Geology, and the additional Examiners in Mathematics, Chemistry, Botany, and Natural History. *Engineering*—The Professors of Mathematics, Natural Philosophy, Chemistry, and Engineering, the additional Examiners in Mathematics, Chemistry, and in Engineering.

Public Health—The Professors of Chemistry, Natural Philosophy, Practice of Physic, Materia Medica, Medical Jurisprudence, and Engineering, and the additional Examiners in Mathematics, Chemistry, and Medical Jurisprudence. *Agriculture*—The Professors of Agriculture, Chemistry, Botany, Natural History, Geology, Political Economy, and Engineering, and the additional Examiners in Chemistry, Botany, Natural History, Agriculture, Veterinary Hygiene, and Chemistry as applied to Agriculture. *Schoolmaster's Diploma*—The Examiners for the Schoolmaster's Diploma are the Professor of Education and an Examiner appointed by the University Court. *Title of Literate in Arts*—The Professors of the Subjects, and the Examiners for Degrees in Arts.

ANNUAL CEREMONIALS FOR GRADUATION.

The relative precedence of each Faculty is as follows :—1. Divinity ; 2. Law ; 3. Medicine ; 4. Arts. The Deans take precedence in their respective Faculties followed by the Members of their Faculties in the order of the dates of their Commissions.

The Public Ceremonial of Graduation in Divinity, Law, Arts, and Science is held annually in April.

Degrees in Law, Medicine, and Science are publicly conferred on the first of August in each year.

Graduates must appear on these occasions in the Academic Costume proper to their respective Degrees.

ACADEMIC COSTUME.

Chancellor.—Robe of Black Brocaded Satin, trimmed with Gold Lace, and with Gold Frogs down fronts and on sleeves. Black Silk Velvet Trencher, with Gold Button and Tassel.

Vice-Chancellor.—Robe and Trencher same as Chancellor's, but trimmed with Silver in place of Gold.

Rector.—Black Silk Gown, with Crimson Silk Velvet sleeves. The gown is trimmed round the collar and down the front edges with Broad Gold Lace, and the sleeves round bottom with a narrower Gold Lace. Black Silk Velvet Trencher, with Gold Button and Tassel.

Principal.—Mauve Corded Silk Robe trimmed with Velvet to match. Black Silk Velvet Trencher, with Gold Button and Tassel.

Members of University Court.—Black Silk Robe, open sleeve, with Gold Frog on each sleeve.

With all of the above, Hoods appropriate to the Degree are worn.

The ordinary form of Gowns worn by Graduates of the University is the same in all the Faculties—viz., black silk or stuff, with long sleeves. The distinctive part of the costume is in the *Hood* appropriated to each Faculty. These Hoods are as follow :

LL.D.—Black *cloth*, lined with *blue* silk.
LL.B.—Black *silk*, lined with *blue* silk, bordered with white fur.
B.L.—Black *silk*, edged with *blue* silk three inches broad, trimmed with white fur.
D.D.—Black *cloth*, lined with *purple* silk.
B.D.—Black *silk*, lined with *purple* silk, bordered with white fur.
M.D.—Black *cloth*, with appended cape, lined and faced with *crimson* silk.
M.B. and C.M.—Black *silk*, lined with *crimson* silk, bordered with white fur.
Sc.D.—Black *cloth*, lined with *green* silk.
Sc.B.—Black *silk*, lined with *green* silk, bordered with white fur.
M.A.—Black *silk*, lined with *white* silk.

The full Academic Dress for Doctors of Law, Medicine, and Science, is Gown of superfine Scarlet Cloth, loose sleeves, the cape and facings down the front covered, and the sleeves lined, with rich silk of the colour proper to the Degree. Birretum of black silk velvet.

REGULATIONS OF UNIVERSITY COURT.

I.—Absence of Professors.

24th Jan. 1887.

1. When any Professor shall be prevented from teaching his Class for more than three successive days, an arrangement shall be made for his Class being taught in his absence ; and such arrangement shall be intimated to the Dean of his Faculty.

2. When any Professor has reason to expect that the demands of his Profession may involve absence from duty for more than four days in all in the course of a Session, an arrangement similar to that in Regulation 1 shall be made and intimated to the Dean of his Faculty.

3. No arrangement for teaching a Class in absence of the Professor shall continue longer than one week without the sanction of the Senatus Academicus ; or, if there be no sufficiently early meeting of the Senatus, without the *interim* sanction of the Principal and Deans Committee.

4. When any Professor shall contemplate an absence from duty of

more than one week, it shall be necessary for him to obtain the sanction of the Senatus for such absence, and for the arrangements for teaching his Class; and if his contemplated absence extend to four weeks or upwards, the sanction of the Senatus shall require the confirmation of the University Court.

5. No Professor shall employ any one other than a Colleague or University Assistant to teach his Class for him, without obtaining the sanction of his Faculty; and such sanction shall be communicated to the Senatus at its first meeting thereafter.

6. The Statement of the arrangements for teaching a Class in the absence of the Professor, submitted to the authorities of the University, shall specify the remuneration proposed to be given to the Professor's Substitute.

II.—Absence of Examiners.

12th June 1876.

1. Any University Examiner who finds himself prevented from being present at any Examination at which it is his duty to act, shall intimate this to the Dean or other Chairman of his Examining Board, who, on receiving such intimation, or otherwise becoming aware of the absence of the Examiner, shall, if possible, appoint a properly qualified Substitute to act for such Examiner.

2. In every case in which a person is appointed to act as Substitute for a University Examiner, and in which his Faculty, or Examining Committee, shall consider it necessary that the Substitute shall receive remuneration, the rate of remuneration to be paid by the Examiner (whether a Professor or Additional Examiner) to his Substitute shall be fixed by the Faculty, or Examining Committee, and shall be based upon the amount of the Fees payable to the Additional Examiners attached to the Faculty or Examining Committee.

3. All absences of University Examiners, their duration and cause, and the relative arrangements made, shall be immediately reported for approval to the Senatus Academicus by the Chairman of the Board to which the absent Examiner is attached; and a similar Report shall in every case of the absence of a University Examiner be made by the Senatus Academicus to the University Court; provided always that such arrangements shall receive immediate effect when circumstances do not permit the previous approval of the Senatus Academicus to be obtained.

4. In every case in which a Professor shall apply for leave of absence from his duties generally, provision shall be made, under the existing Regulations regarding leave of absence to Professors, for the performance of his duties as Examiner, as well as for the performance of his duties as Teacher; and provision shall be made for the remuneration of his Substitute in both capacities.

III.—Applications for Additional (or Non-Professorial) Examinerships in the University.

17th February 1890.

1. Applicants should lodge sixteen copies of their applications (one of which should be signed), and sixteen copies of any testimonials they may desire to present, with the Secretary of the Court, not later than one week before the day fixed for making appointments in each case.

2. Applicants who send in testimonials must not send more than four for any one appointment.

3. The days for making appointments to the Additional Examinerships falling vacant in the ordinary course are :—In Arts, on the second Monday of July, for the period commencing on 1st October following ; in Divinity, Medicine, Law, and the Civil Engineering and Agriculture Department of Science, on the second Monday of January in each year, for the period commencing on the 1st of that month ; for Schoolmaster's Diploma, on the third Monday of November.

4. The appointments in Divinity, Arts, Law, the C. E. and Agriculture Departments of Science, and for the Schoolmaster's Diploma, are for three years. The appointments in Medicine are for one year, and the persons appointed may hold office by annual reappointment for a period of five years, but not longer, except under special circumstances.

5. Persons may be appointed to examine in two of the thirteen Subjects of the Examinations for Graduation in Medicine, but not more, and not in more than one Subject in any one Division of the Examinations.

6. Every applicant for an appointment in Divinity must hold the degree of B.D. from a Scottish University.

7. Every applicant for an appointment in Arts must be a member of the General Council of a Scottish University.

IV.—Opening of New Classes.

6th May 1868.

No class in addition to those existing in the University shall at any time be opened,—whether for the purpose of dividing the course on a subject necessary for graduation, or for teaching a class not requisite for graduation,—without the approval of the Senatus and the sanction of the University Court.

V.—Recognition of Extra-Academical Teachers.

17th Feb. 1890.

1. Every applicant for recognition shall furnish for the information of the Authorities of the University :—

(1.) A Statement of his Registered Qualification or Qualifications, and of the name of the Office, or Appointment (if any) which he holds, as a Teacher of the Subject in which he requests recognition.

(2.) A Syllabus of his Course of Lectures; or, in the case of a Practical Class, information of a similar kind.

(3.) A Statement of the number of Lectures, and of the number of Written or Oral Examinations in the Course; or, in the case of a Practical Class, information of a similar kind.

(4.) A Short description of his Accommodation for a Class; and of the Apparatus, Illustrative Specimens, Diagrams, and other appliances, at his disposal for teaching the Subject in which he desires recognition.

(5.) A Statement of his opportunities of studying the Subject, and of the length of time devoted thereto.

(6.) A Statement of the experience he has had in teaching the Subject.

(7.) A Note of the Titles of his published Contributions to the Science of the Subject.

(8.) A Statement as to whether his Course or Courses of Instruction have been already recognised by any University or other examining body, and, if so, what means were adopted for ascertaining his qualifications for teaching.

2. In the case of every Applicant for recognition residing in Edinburgh or its neighbourhood, an inspection shall be made of his teaching Appliances and Accommodation for teaching.

3. Every recognised Extra-Academical Teacher shall annually furnish the University with the information regarding his Course or Courses which is required from the University Professors as to (1.) The number of Students attending the recognised Course or Courses of Instruction; (2.) The number of meetings for ordinary Class Work in the Session, and in each week thereof, excluding meetings which fall under the next head; (3.) The number of Special Written Examinations; (4.) The system of conducting the ordinary Class Work, and the number of meetings devoted to each kind of work.

4. The Certificate of Attendance granted to Students by recognised Extra-Academical Teachers, should, in all cases, state the number of Lectures, or of Meetings for Practical Instruction, in the Course; the number of occasions on which attendance was ascertained; and the number of those occasions on which the Student was present. The Certificate should also state the general scope of the Course; and, in particular, in the case of Chemistry, that the Course included Organic as well as Inorganic Chemistry; in the case of Midwifery, that it included the diseases of Women and Children; and, in the case of Practical Materia Medica, that it included Pharmacognosy, Pharmacy, Dispensing, and the writing of Prescriptions.

5. In the event of an Extra-Academical Teacher removing from the premises or building occupied by him for teaching a recognised Course, such Teacher shall be required to intimate his removal to the University Court, in order that the Court may have an opportunity of

considering whether the accommodation in the building to which he has removed is adapted for the purpose of teaching the Subject in which he is recognised.

6. When application is made for the recognition of a Course taught by two or more Teachers in conjunction, information shall be given of the share to be taken by each Teacher in such conjoined Course ; and the recognition of such conjoined Courses, and of each of the persons recognised as Teachers of a conjoined Course shall, *ipso facto*, terminate should one or more of the Teachers cease to conduct the Course, or should any material change be made in the share of each Teacher in the teaching of the conjoined Course.

7. The recognition of any Teacher who fails to furnish the information called for in Section 3, or an explanation relative to such failure ; or who has ceased for the period of two consecutive Sessions to teach the subject on which he is recognised shall, *ipso facto*, terminate.

University Buildings.

THE University Buildings at present consist of three distinct portions: (1) The College, or University (Old) Building, with Dome, in South Bridge Street; (2) The University New Buildings (School of Medicine), Teviot Row; and (3) The Music Class Room, Park Place.

I.—THE UNIVERSITY (OLD) BUILDING.

The University (Old) Building, which covers the site of "Kirk o' Field," the scene of the murder of Darnley, contains the University Library and Reading Rooms; the Class Rooms of the Faculties of Arts, Divinity, and Law, and the Natural History Class Room; the Theological Library and Reading Room; the Examination Hall; the Physical, and the Geological and Petrological Laboratories; the Fulton Engineering Laboratory; the Physical, Geological, Fine Art, and Natural History Museums; the Senate Hall, University Court Room, and the Offices of the Senatus, of the University Court, and of the Students' Representative Council.

The work of teaching began in 1583, but until the latter part of the eighteenth century, the professors and students of the University had been very imperfectly housed. In a Memorial, dated 1768, Principal Robertson complains that the buildings, "poor in themselves, seem not to have been carried on according to any regular plan, such as takes place in other academical structures which have been erected on more opulent foundations; and hence the whole fabric has a mean, irregular, and contemptible appearance." At this time the number of students was estimated to be between six and seven hundred, and the number of professors was twenty-one.

Twenty years later this complaint was repeated by a writer in the "Scots Magazine," who notices that "in 1788 the buildings of the University are in the same ruinous condition that they were in in 1768, and the most celebrated University at present in Europe is the worst accommodated." A scheme for rebuilding, which had been often discussed, was now taken seriously in hand by the Town Council, encouraged by promise of liberal aid from Government. A plan was obtained from Robert Adam, then at the height of his reputation, and the foundation stone of "the New College of Edinburgh" was laid with considerable pomp on November 16, 1789.

The original plans of Robert Adam, preserved in the Soane Museum in London, divide the space now occupied by the College buildings into two quadrangles, a smaller to the east, entered as at present from South Bridge Street, and a larger beyond it to the west, a block of academic buildings lying between. This arrangement was doubtless intended to obviate the difficulties caused by the rapid rise of the ground from north-east to south-west. Round the two courts thus formed there were not only to be Class Rooms, Museums, and a Library, but also houses for the Principal and Professors. The western side of the larger court was to be occupied by a large Graduation Hall and Chapel. Corridors and lobbies were to surround the great quadrangle, affording covered communication between the different class rooms. The buildings were begun at different points, chiefly on the eastern and northern sides, but had not proceeded far towards completion when the death of the architect in 1792, and soon afterwards a failure of funds, caused a cessation of the work. The fabric, partly old and partly new, remained in a very unsatisfactory state till 1815, when a Government Commission was appointed to collect funds and to carry out the undertaking, though in a somewhat modified form. An advertisement was then issued, inviting plans "for finishing the College of Edinburgh, on a reduced scale, leaving out the south front, and the cross building, which formed the small court in the original plan,—regard being always had to the part already executed, and to the preservation of the architecture of Mr

Adam, as far as practicable." Out of nine sets of plans sent in, those of William Henry Playfair were finally selected, and under his superintendence the work progressed rapidly till its practical completion in 1828, by which date the New Buildings had cost in round figures some £161,000.

In the buildings as they appear at present, the general character of the whole design is due to Robert Adam. Some portions were actually erected by him, or completed after his death in accordance with his drawings. In other parts some modification of Adam's plans and elevations was necessary, while the designs of a third portion had to be furnished anew by Mr Playfair, who was careful in both these cases to provide that, in his own words, "the exterior of the buildings would be executed as nearly similar as possible to Mr Adam's design." The eastern exterior front, a very fine specimen of monumental architecture, with its monolithic columns 22 feet in height, was erected by Adam, and it may be noted that in the original drawings for this portion in the Soane Museum a certain amount of sculpture is introduced, which would have greatly enhanced the effect had it been added to the façade. Thus, statues were to have been placed upon the balustrade of the shallow balcony above the portico, one over each of the monolithic columns. Erected, too, by Adam, was the north-west corner of the great court, of which the circular Loggie form an admired feature, while he also carried out a considerable portion of the north front to what is now Chambers Street, and commenced the western block. The principal modification introduced by Playfair was the throwing of the two courts into one, which involved a reconsideration of the north and south interior elevations. Here Adam's plan was departed from, and the present elevations on these two sides are due to his successor. Playfair erected the elevations of the western block after Adam's designs with some very slight improvements ; but the interior treatment of the block, which he fitted up for the Natural History Museums, is his own, and the "Upper Museum," now the Natural History Laboratory, is a good specimen of his style. The "circular corners" which Adam had designed for his

great court were retained by Playfair for his single quadrangle, but in order to fit them on at the eastern end, a new screen of masonry was erected on the inner front of the eastern portico. On the exterior, the north front is Adam's, and its comparative plainness is due to the fact that at the time only a narrow lane bounded the College on the side where now runs the broad thoroughfare of Chambers Street. For the south exterior front Adam had given a handsome and ornate design, which was afterwards simplified by Playfair, but is still superior in treatment to the corresponding elevation to the north.

The difficulty of the levels in the quadrangle was overcome by Playfair in a most satisfactory manner. He designed a terrace surrounding the court, under which on the northern and eastern sides is a basement story, while access is gained from the area below by flights of steps. The whole provides a very suitable architectural base for the noble buildings surrounding the quadrangle.

The interior arrangements were considerably modified by Playfair, and his great achievement is the Library Hall, a fine gallery measuring 185 feet by 54 feet, with an arched ceiling enriched with cassettes, the effect of which is, however, marred by insufficient lighting. For all the ornamental details in the Library Hall and the Natural History Museum, Playfair furnished careful full size drawings.

The general effect of the buildings is simple and dignified, and their character thoroughly Academic. The material is mainly Craigleith stone, and the detail carving is well worked out. The single quadrangle, measuring 242 feet 6 inches from east to west, by 134 feet from north to south, has a very spacious effect, and is a great improvement on the original plan of 1789, though, as before remarked, the essentials of the design must be regarded as due to Adam. No finer specimens of the neo-classic style could be found than the interior elevations of the Quadrangle, especially on the west, or the eastern front to South Bridge Street.

The Dome.

The original design of Robert Adam provided for a Dome over the eastern portal. The form he had sketched out was not, however, a pleasing one, and no steps were taken to carry out this feature until 1883, when funds came into the possession of the University, bequeathed for the purpose of erecting a Dome, by Robert Cox, Esq., W.S. It was then determined to carry out the Dome on a new design prepared by R. Rowand Anderson, Esq., LL.D., Architect of the University New Buildings (School of Medicine). The present Dome, though in a less purely classical style than the Adam-Playfair building, is in itself a pleasing and effective structure, and a welcome addition to the architectural features of the city. An admirable finial to this fine architectural work is formed by a vigorous and athletic figure of Youth, bearing the torch of Knowledge, executed in bronze by John Hutchison, Esq., R.S.A. The Fine Art Museum is accommodated in the Dome.

II.—THE UNIVERSITY NEW BUILDINGS.

(School of Medicine.)

In 1869 the number of students had risen to more than fifteen hundred, and that of the Professors to thirty-three, while there were seventeen Class Rooms only for their accommodation. A Committee was therefore formed in 1873, and an appeal was made to the public for subscriptions for the purpose of purchasing a site for and erecting complete Class Rooms, Theatres, Laboratories, and Museums for the Faculty of Medicine, with the latest scientific improvements; for reorganising the Class Rooms of the College for the Faculties of Arts, Divinity, and Law; for providing increased and more convenient accommodation for the University Library; for erecting a University Hall for conferring degrees, for holding examinations and other public and academic ceremonials; and for improving to some extent the north front of the College building.

This appeal to the public resulted in subscriptions being

received to the amount of £148,548, 2s. 5d., which, with a grant of £80,000 received from Government, and interest, rents, and value received for old material, amounted to the sum of £244,587, 4s. 8d.

These buildings (the University New Buildings, begun in 1878) were partly opened for teaching purposes in October 1880, and having been completed, were transferred by the Committee to the University in October 1888. They are situated on an irregularly shaped site formerly covered by Teviot Row, Park Street, and Park Place, and were designed by R. Rowand Anderson, Esq., LL.D., Architect, and completed under his supervision.

In them are placed the Lecture Rooms, &c., of the Faculty of Medicine (excepting those of Botany and Natural History), the Museums of Practice of Physic, Anatomy, Chemistry, Obstetrics, Materia Medica, and Surgery; a Students' Reading Room, Students' Common Room, Faculty of Medicine Reception and Reading Room, and Office of the Faculty.

The style of architecture adopted by Dr Anderson is Italian of the Cinque Cento period. This style, developed in the end of the fifteenth and beginning of the sixteenth centuries, may be regarded as intermediate between the Gothic and the stiff Palladian work, which aims at a mere manipulation of the five orders; and it naturally commends itself on account of its plasticity and adaptability to varied internal arrangements. The main frontage presents, as its central feature, a slightly projecting elevation, pierced by the archway which forms the principal entrance. Over the arch is an ornate window, flanked by pilasters, between which are niches for statuary; and the whole is surmounted by a bold semi-circular pediment, intended to be occupied with a group of sculpture. The façade is three storeys in height except in the projecting west wing, which has an additional floor. On the ground floor the windows are square, and are surrounded with simply moulded architraves. Above these runs a well-marked string course ornamented with dentils. The first floor windows are round-headed and furnished with architraves, their arches showing boldly in the masonry of the

wall. Next comes a broad frieze, relieved at intervals with circular panels, in which carved work will be placed. Over this the string course is repeated; and the upper floor windows are separated by pilasters, each being divided by a shaft which supports a circular tracery in the window head. The wall is finished at the top with architrave, frieze, and cornice, and crowned with a low-pitched roof, covered with red tiles. The external features and their relative positions have been influenced by the internal arrangements of the building.

THE M'EWAN HALL.

The building which completes the group of the University New Buildings, or School of Medicine, is the M'Ewan Hall, the munificent gift of William M'Ewan, Esq., M.P., Edinburgh. Dr R. Rowand Anderson was also the architect of this building, which stands on the ground formerly occupied by Park Street. The Greek Theatre forms the basis of the design. The internal diameter of the semicircle is 134 ft., and the dimension the other way, including the platform recess, is 107 ft.; and the height from floor to ring of centre light is 90 ft. On the north-west corner, and connecting the Hall with the present buildings, is placed the Campanile Tower, which is 32 ft. square at the base, and rises to the height of 275 ft. The tower will, in the meantime, only be carried up to the height of the other buildings, but it is hoped that at no distant date this noble part of the design may be completed. At the south-west corner is placed the entrance to the principal staircase, and on the outer circumference of the circle are placed two double stairs for access to the galleries. No fewer than seven entrances to the Hall are provided, so that easy access and speedy exit may be secured. One of the chief of these entrances is in the base of the tower. The Hall is capable of holding 3000 people, and in designing it the architect has had in view the special object which it is intended to serve. In it Degrees will be conferred, and Examinations and all public Academic Ceremonials and Concerts connected with the University will be held. A large platform and

ample floor space and gallery accommodation have accordingly been provided. Provision has also been made for the accommodation of a great organ and an orchestra of over 300 performers. The space is apportioned as follows :—A flat area, to be occupied by the Graduands on ceremonial days ; a raised amphitheatre of seats following the sweep of the semicircle, and two galleries, also semicircular in form, rising one above the other. Immediately at the back of the amphitheatre is a vaulted fireproof corridor, 12 ft. wide, extending round the half circle from the north-west to the south-west entrance. Above it is the first gallery. The platform is placed on the straight side of the Hall, and is of ample dimensions, with appropriate seats for the Chancellor, the Rector, the Principal, the University Court, the Senatus, the Curators, &c. The system of construction is really that of the double wall. The inner wall which carries the roof is opened up with pillars and arches from the level of the first gallery, thrusts being transmitted by flying buttresses to the outer wall. The roof is domical in form, is deeply panelled, and pierced at the base with circular lights, and has in the centre a skylight 25 feet in diameter. It will be constructed entirely of steel. From the floor to the roof the Hall will be 90 feet in height, and with its imposing dimensions and tiers of stone pillars and arches, it will be one of the most striking and handsome Halls in the kingdom. The external elevation will conform to the early Italian of the rest of the buildings. The great circle of the Hall is divided vertically by powerful buttresses, while horizontally the lines correspond with those of the west façade. The elevation is divided into three stages ; the first is panelled with circular lights, the second is a blank wall, while the third stage is arcaded—there being three arches between each buttress. On the two principal stages the buttresses have niches for figures. The wall is surmounted by a cornice and balustraded parapet, and above this appears the clerestory, which is carried on the inner circle, while over all rises the domical roof. The Hall was begun in 1889, and will probably be completed in 1892.

III.—REID SCHOOL OF MUSIC.

The School of Music, situated immediately to the south-east of the University New Buildings, was built in the year 1858, from the designs of the late David Cousin. It contains the Music Class Room, with an organ of four manuals and sixty-six stops, enclosed in a handsome carved oak case; and a Museum containing an interesting collection of acoustic and antique musical instruments.

The architecture of the building is studied from the best and purest examples of the Italian Renaissance of the early part of the sixteenth century.

University Library.[1]

IN 1580 Mr Clement Littil or Little, left his books to "Edinbvrgh and Kirk of God thair to reman." This collection of about 300 volumes, chiefly theological (see list in Miscellany of the Maitland Club, vol i., 1834), was a few years afterwards transferred by the Town Council to the University, and thus became the nucleus of the University Library, which was gradually augmented by donations from Citizens of Edinburgh and from alumni of the University, and by annual contributions of Students when they took the Degree of Master of Arts.

The celebrated Poet, Drummond of Hawthornden, bequeathed his library to the University in 1627; and the gift is valuable, both from the eminence of the donor's name, and from the rare specimens of early literature with which the collection is enriched (see *Auctarium Bibliothecæ Edinburgenæ*, 1627).

Among donors may be specified, for the extent and value of their benefactions, Principal Adamson, Dr Robert Johnston, a physician in London; the Rev. James Nairne of Wemyss, in Fife; Dr John Stevenson, Professor of Logic and Metaphysics in the University; and Dr William Thomson, Professor of Anatomy in the University of Oxford. In 1872, the Library received a valuable donation from J. O. Halliwell, the eminent Shakespearean critic, of works relating to Shakespeare, collected at great cost. In 1875 a large collection of Persian and Arabic MSS. was presented by Mr J. B. Baillie of Leys. In 1879 the bequest of an extensive collection of MSS. was received from the executors of David Laing, LL.D. In 1880 the collection of works

[1] The names of the present Librarian and of the Assistant Librarians are given at p. 7. The names of the Librarians from 1635 to the present time will be found in previous Calendars, and also in the Historical Appendix to List of Graduates of he University published in 1889, page 113.

on Economic Science formed by Professor Hodgson were presented to the Library by Mrs Hodgson. In 1882 a valuable collection of works on Sanskrit Literature was presented by the family of Dr John Muir. In 1886 Mr Thomas Stratton bequeathed to the Library 110 works bearing on the study of Celtic; and in 1889 William Mackinnon, Esq. of Balmakill, having purchased the library of the late Dr Cameron of Brodick, an eminent Celtic scholar, at a cost of £600, placed the books at the disposal of the University. This same year saw the bequest of a collection of MS. Shakespeariana by Mr Halliwell-Phillipps; and the presentation, by his widow, of a number of volumes from the library of the late Professor Wilson.

The University Library contains about 177,000 printed volumes, and about 3000 volumes of MSS., many of which are of great interest and value.

The University possesses a number of valuable pictures and busts, which are kept in the Library and the Senate Hall.

The Library Hall, and the suite of rooms connected with it, occupy the south side of the College quadrangle.

The Library is open for the purpose of giving out Books to Readers, either on loan or for reference, every lawful day during the Winter Session, from Ten to Four o'clock, except on Saturdays, when it is closed at One o'clock, and during the Summer Session and Autumn from Ten to Three, and on Saturdays from Ten to Twelve, except as aftermentioned. During the month of August, and during the Christmas vacation and the week in which the Spring Holiday occurs, the Library (not the Reading-Rooms) is open from Ten to One, except on Saturdays and holidays. The holidays are—the Queen's Birthday, Christmas Day, New Year's Day, Good Friday, and the Edinburgh Spring and Autumn Holidays. The Students' Reading-Room is also open during the Winter Session on Mondays, Wednesdays, and Fridays, from Eight to Ten P.M.

The Students' Reading-Room, in the University New Buildings, is open daily, from Nine A.M. to Five P.M., except on Saturdays, when it is closed at Twelve noon. It is open in September and during the week in which the Spring Holiday

occurs (Saturday excepted), from Ten to One. It is closed during August and the Christmas Holidays, and on holidays and Saturdays during the Summer vacations.

The READING ROOM (see page 58).

The following Regulations, enacted in 1862, relate to the general management of the Library:—

I. The Librarian has the ordinary Management of the Library, subject to the superintendence of the Library Committee of the Senatus Academicus.

II. The Senatus Academicus annually appoints a Committee of their own number, called the Library Committee, whose duty it is, under the authority and subject to the directions of the Senatus, to take special charge of the affairs and business of the Library. This Committee consists of not less than five members, of whom three are a quorum; and one member at least of the Finance Committee is also a member of the Library Committee.

III. The Librarian and the Assistant Librarians are appointed by the Senatus Academicus, who have the power of suspending or dismissing them, subject to an appeal to the University Court.

IV. All books ordered for the Library are sent direct to the Librarian, and forthwith entered by him in the Catalogue, and noted with distinguishing marks; and no person is allowed to use or borrow any book until it has been entered in the Catalogue, and noted.

V. The Senatus Academicus, or their Library Committee, have power, from time to time, to make provision for the manner in which the ordinary business of the Library, in regard to borrowing and consulting books, is conducted, by establishing a regular and authentic record of borrowing and returning books on such a system as secures their due return and preservation.

VI. The Librarian is required from time to time to prepare a list, to be submitted to, and adjusted and approved by, the Senatus, and when so adjusted and approved, to be kept by the

Librarian, of such books, manuscripts, and other works, as ought not to be lent out of the Library, and which shall not be lent out on any terms; and the Senatus make regulations for allowing access to such works for consultation.

VII. The Librarian is required from time to time to prepare a list, to be submitted to, and adjusted and approved by, the Senatus, and when so adjusted and approved, to be kept by the Librarian, of such works as ought not to be lent out of the Library, except upon special application, and by special permission of the Library Committee; and the Senatus, from time to time, make general regulations as to the conditions under which such works may be borrowed; and in addition to such general regulations, the Library Committee may, in each individual case of borrowing such works, impose such special conditions as they may think necessary or expedient: Provided always, that every such special permission, and all such additional conditions imposed by the Library Committee, are entered in the Minute-book of the Committee.

VIII. A general Inspection of the Library of the University, and of the record kept, as above provided by Section V., of the borrowing and returning of books, takes place *annually in the second week of October.*

IX. During the period of the annual Inspection the Library is closed, and all works whatever, and by whomsoever borrowed, must be returned to the Library before the commencement of such period, under a penalty, previously fixed and publicly notified by the Senatus, of not less than one shilling a volume; and in the event of any volume not being returned before the expiration of one week after the last day of the inspection, the fine is repeated weekly until such volume is returned, or until a copy of the work of the same edition, and of equal value is, at the expense of the borrower, placed in the Library in its stead: Provided always, that the amount of the fine in the case of works borrowed by special permission as aforesaid, may be fixed either by general regulation of the Senatus, or

by special condition imposed by the Library Committee in any individual case.

X. The use of the Library *by persons not being Students of the University* is subject to the following regulations :—

1. Each Member of the Senatus Academicus is entitled to have in his possession, at one time, twenty-five volumes but not more.

2. Each Member of the General Council is, in each year in which he shall have paid a subscription to the Library of ten shillings and sixpence, entitled to have in his possession at one time four volumes, but not more : Provided always, that a payment, instead of such yearly subscription, of a composition of five guineas entitles a person to the like privilege for life. In regard to the use of the Library by Members of the General Council, the year is held to date from the *fifteenth day of October.*

3.[1] In consideration of the Annual payment of five pounds by the Royal College of Surgeons to the University, each Fellow of the College resident within ten miles of Edinburgh, is, in each year in which he pays a subscription of one guinea to the Library of that University, entitled to have in his possession at one time ten volumes, but not more. The College of Surgeons and the members thereof, as such are not entitled, in virtue of any former agreement or otherwise, to any privilege or use of the Library, except as herein is specially provided, and as regards such use of the said Library the year is held to date from the *fifteenth day of October.*

4. Subject always to the provision as to the return of books at the annual period of inspection, every person in each of the above classes is entitled to retain each book for one month from the date of borrowing, if the book has been borrowed at any time between the *first day of October* and the *thirtieth day of April inclusive*, and

[1] In abeyance since March 1887.

for two months from the date of borrowing, if the book has been borrowed at any time between the *first day of May* and the *thirtieth day of September inclusive;* and further, after the expiration of such period of one month or of two months, as the case may be, he is entitled to retain each book until the annual period of inspection, unless notice is received by him from the Librarian, requiring the return of such book, which notice shall be issued on application being made for the same by any person entitled to the use of the Library, or by order of the Senatus Academicus, or of the Library Committee. The form of notice requires the return of the book within a certain short period, to be specified therein, under a penalty of not less than one shilling a volume, if the book be not returned within such period, and after the expiration thereof, under a further penalty of sixpence a volume for each day, as long as the book is not returned, until the amount of the fine exceeds the sum for which the book can be replaced in the Library, such penalties to be also specified in such notice. In the event of the Library possessing more than one copy of the book so applied for, and of all the copies being out of the Library, such notice as aforesaid must be sent to the earliest borrower.

XI. The use of the Library by *Matriculated Students of the University* is regulated as follows :—

1. Every Matriculated Student is entitled to have in his possession two volumes at one time; and is entitled to retain any book for two weeks from the date of borrowing; and further, to re-borrow any book for successive periods of two weeks, unless an application for the same shall, in the meantime, have been made by another person entitled to the use of the Library. It is in the power of the Senatus Academicus, if they shall think it expedient, to allow Students, either generally or during any particular period of the year, to be in possession of more than two volumes at a time.

2. It is in the power of the Senatus Academicus, from time to time, to make such regulations as to a deposit of money by Students borrowing books from the Library, as they may think expedient; and also to regulate the use of the Library by Students in consulting books in the Library itself.

   [Every Student before borrowing books must exhibit his Matriculation Ticket and at least One Professor's Ticket, and deposit £1, after which his name will be enrolled in the Library books.]

3. No certificate of attendance upon a class may be granted by a Professor to any Student without the production of evidence to the Professor that the Student has duly returned all books which he may have borrowed from the Library.

XII. Students enrolled by the University of Edinburgh as attending the lectures of extra-academical teachers in Edinburgh (under the sixth sub-section of the sixth section of Ordinance, No. 8, Edinburgh, No. 3), are entitled to the like privileges in connection with the Library of that University, and are subject in the same manner to any regulations to be made by the Senatus, as Matriculated Students of the University; and no certificate of attendance on the lectures of any such teacher may be given to any Student so enrolled without the production of evidence to the teacher that the Student has duly returned all books which he may have borrowed from the Library.

XIII. It is in the power of the Senatus Academicus, from time to time, to grant the use of the Library to such extent, and on such conditions, as they may think expedient, to persons for purposes of literary research, and that whether such persons are members of the University or not. But no such privilege can in any case be granted except by minute of the Senatus, specifying the grounds on which the grant is made, and the conditions which have been attached thereto, an extract of which minute must be forthwith transmitted to the University Court.

XIV. All grants of the use of the Library made by the Senatus

Academicus, in pursuance of the preceding section, terminate at the annual period of inspection of the Library, but may be renewed under like conditions, if again applied for, on the expiration of that period: Provided always, that the Library Committee may be empowered by the Senatus to renew any such grant until the first meeting of Senatus after the expiration of the annual period of inspection, but no longer.

XV. In the event of any book being lost or injured while in the possession of a person entitled to the use of the Library, he is liable either to replace the same, or to pay such fine, either as representing the value of the book, or otherwise, as may be fixed by the Senatus Academicus, or by the Library Committee, in the event of their having been empowered by the Senatus to fix the amount of such fines.

XVI. So long as any person remains in possession of a book which he is not entitled to retain, or allows any fine incurred by him to remain unpaid, the right of such person to borrow or retain any books whatever, or to exercise any of the privileges of the Library, is suspended and remains in abeyance.

XVII. No book can, in any case, be given out of the Library except to the borrower in person, or to some one having written authority from him.

XVIII. On the expiration of the annual period of inspection, the Librarian must report to the Senatus Academicus in reference to the year then ended :—

1. The particulars of every case of admission to special privileges in the use of the Library :
2. The particulars of every case in which a person's right to the use of the Library has been suspended, or is in abeyance :
3. Every case of a book belonging to the Library having been replaced at the expense of a person entitled to the use of the Library :
4. A list of all books belonging to the Library known or found at the time of the inspection to be amissing or seriously injured :

5. Any other matter which the Librarian may think it of importance to bring under the notice of the Senatus, or regarding which the Senatus may have directed him to report :

and the Senatus is required to forward a copy of the Librarian's Report to the University Court with their remarks.

XIX. At the conclusion of the annual period of inspection, a list is made of all persons who may have failed to return by that time any books borrowed by them, or to pay any fines incurred, along with the names of the books so unreturned, and the amounts of the fines then due ; and this list is exhibited in a conspicuous place in the Library ; and no name may be removed therefrom, until in each case the book or books be returned or replaced, or the fine or fines, which may have become due, be paid.

The following Supplementary Regulations are now in force :—

I. The provision of Sub-section 1 of Section XI. of the above Regulations is limited in its application to the use of the Library by Students who are not Masters of Arts of the University ; and, as regards such Students, it is in the power of the Senatus Academicus, if they think it expedient, to fix a certain longer period than two weeks from the date of borrowing as the period during which they are entitled to retain books, and that either generally or as applicable to any particular portion of the year, as the Senatus may think expedient. Any such extended period, and also the portion of the year to which the same applies, must be specified in the minute of the Senatus authorising the same, and an extract of such minute must be forthwith transmitted to the University Court.

II. Subject to the preceding Regulations, and specially to the Regulations in Sub-section 4 of Section X., the following classes of persons are entitled to the use of the Library, to the extent and under the conditions hereinafter specified, that is to say :—

1. Every person who has retired, or who shall hereafter retire, from the office of Principal or Professor on a retiring allowance, is entitled to have in his possession at one time ten volumes, but not more.

2. Any assistant to a Professor, to whom the Senatus Academicus think it expedient to grant the privilege of the Library, is entitled to have in his possession at one time ten volumes, but not more.
3. The Librarian is entitled to have in his possession at one time ten volumes, but not more ; and any Assistant Librarian to whom the Senatus Academicus think it expedient to grant the privilege of the Library is entitled to have in his possession at one time four volumes, but not more : Provided always, that all books borrowed by the Librarian, or by any such Assistant Librarian as aforesaid, are duly and regularly entered in the ordinary Records of the Library as being so borrowed, in the same manner as books borrowed by other persons.

READING ROOMS.

I. University (Old) Buildings.

There is attached to the Reading Room of the University Library a separate collection of books set apart for the consultation of Students.

Any Student wishing to consult books from this Reading Room Collection must insert in one of the slips provided for the purpose the number of his Matriculation Ticket, his Name and Residence, and the Title of the Book he may wish to consult, and present the slip to the Librarian in attendance. Each separate Book must be applied for by means of a separate slip.

Each slip so presented will render the person who has signed it responsible for the book named upon it. The counterfoil of slip should, therefore, in each case be re-claimed from the Librarian in attendance, when the Book is returned, or whenever the Book applied for is not available.

Every volume must be returned by the person who has used

it, before he leaves the Reading Room. Students are forbidden to leave on the table the Books used by them ; they are required to place them in the Librarian's hands, and to demand back the counterfoils of their slips. To prevent confusion, this should be done a few minutes before the close of each hour by those who have to attend classes at the commencement of the next hour.

In addition to the books in the Reading Room Collection, each Student is allowed to consult in the Reading Room Two Volumes daily from the General Library, provided always that he has handed in on the previous day, before 2 o'clock P.M., slips applying for these two works. The same rules will then apply to such books as to those consulted from the Reading Room Collection.

No conversation, or noise likely to disturb readers, is permitted in the Reading Room.

The Librarian is responsible for the management of the Reading Room. Any point of difficulty that may arise must be referred to him for decision, or, if necessary, through him to the Library Committee.

Every Student, on first applying for books in the Reading Room, must exhibit his Matriculation Ticket for Registration in the Book kept for the purpose in the room.

All books taken into the Room from the General Library shall be carefully examined and returned to their place in the General Library each day. No books shall be issued from the General Library, for use in the Reading-Room, after 3.20 in Winter or after 2.30 in Summer; and all books from the General Library shall be given up in the Reading-Room at 3.45 in Winter and 2.45 in Summer.

In the beginning of 1888 the Senatus Academicus sanctioned the opening of the Reading-Room for three nights a week during the Winter Session, between 8 and 10 P.M. Books required from the General Library must be demanded in writing before 3 o'clock.

II. University New Buildings.

In the University New Buildings is a Reading Room containing Books of Reference for those attending the Classes in the Faculty of Medicine. The Regulations as to consulting Books are similar to those in the Reading-Room in the University (Old) Buildings. See p. 58. It is open daily, under Regulations similar to the above, from 9 A.M. to 5 P.M. On Saturday from 9 A.M. to 12 noon.

THEOLOGICAL LIBRARY.

This Library was founded in 1698 for the special use of Students in Theology. It contains above 10,000 volumes. The management, by the amended constitution (1863), is vested in a Committee of six Curators, chosen by ballot, by the Cives of the Library, from their own number. Students of Divinity of this University, or any who have been Students of Divinity at any Scottish University, are admitted as Cives of the Library on payment of an annual contribution of two shillings and sixpence in the former case, and of five shillings in the latter. No one who, when a Student of Divinity in this University, has failed to enter as a Civis, is in any after year allowed to do so, until he has paid up the arrears of two shillings and sixpence for each year of his Theological Course in which he has failed to pay the said contribution. No Civis can be elected a Curator unless he be at least in the second year of his attendance at the Divinity Hall. The election takes place in the second week of December, one-third of the Curators going out annually by rotation. The Curators elect one of their own number to be Treasurer. The Curators and Treasurer report the state of the funds, &c., to the Cives, the Theological Faculty, and the Senatus Academicus. The books purchased are selected by the Curators, subject to the approval of the Faculty of Divinity, and are restricted to theological works, and works subservient to theological study. The Professor of Divinity, who is *ex officio* Honorary Librarian, appoints annually an acting Librarian. Books may not be kept out of the Library longer than two months.

PORTRAITS AND BUSTS IN THE SENATE HALL, LIBRARY, COURT ROOM, ANATOMICAL MUSEUM, MUSIC CLASS ROOM, AND DOME.[1]

I. PORTRAITS.

There are twenty-seven Portraits of Benefactors, Principals, Professors, and others, by Raeburn, Sir John Watson Gordon, and other Artists, in the Senate Hall, four in the Library, sixteen in the University Court Room, and one in the Music Class Room.

II. BUSTS.

There are forty Busts in the Upper Library Hall, two in the Anatomical Museum, and one in Room in Dome.

In order to honour and perpetuate the names of Benefactors who have founded Scholarships, Bursaries, or new Chairs in the University, the University authorities have made arrangements for placing their Busts or Portraits in the Library and University Court Room.

Regarding as Benefactors the eminent Professors who have elevated the character of the University by their writings or discoveries, the University desires to procure Portraits or Busts of James and David Gregory, Colin Maclaurin, Matthew Stewart, Dr Cullen, Joseph Black, Dr James Gregory, Dr Alison, Dr Chalmers, Sir Chas. Bell, Lord Woodhouselee, Dr Thos. Chas. Hope, Professors Miller, Ross, Macdougall, Muirhead, Lorimer, Sellar, and Campbell Fraser.

TORRIE FINE ART COLLECTION.

Sir James Erskine of Torrie, by a Will, dated April 1834, bequeathed to the University his Pictures, Bronzes, and Marbles, "for the purpose of laying a foundation for a GALLERY for the encouragement of the Fine Arts." The collection is at present temporarily deposited in the National Gallery until funds can be obtained for its suitable display in the College, and for carrying more fully into effect the intentions of the testator.

The Pictures, forty-five in number, include choice specimens of the works of different Masters, especially in the Flemish and Dutch Schools. The Marbles, seventeen in number, and twenty-three Bronzes, have been chosen with a correct appreciation of the merits of this department, and the whole collection reflects credit on the taste and public spirit of Sir James Erskine.

---

[1] There is a separate printed Catalogue of the Portraits and Busts in the University, and of the Torrie Collection. A detailed Catalogue will also be found in the Calendar for 1890-91, p. 61, as well as in the previous Calendars.

Museums.

THE University contains the following Museums, several of which belong partly to the Professors of the respective subjects :—

1. The NATURAL PHILOSOPHY MUSEUM contains a large and very valuable collection of physical apparatus, chiefly of modern construction.

2. MUSEUM OF MUSIC AND MUSICAL INSTRUMENTS. — A very interesting and valuable collection of acoustic and antique musical instruments.

3. GEOLOGICAL MUSEUM.—This collection is for class purposes. It exhibits the characters of minerals and rocks, and the typical fossils of the different geological systems.

4. FINE ART MUSEUM.—A small collection of casts, photographs, and drawings, illustrating the main points in the history of classical art. The collection is housed in the Dome above the portal of the University.

5. MUSEUM OF THE ROYAL BOTANIC GARDEN. — This Museum is open to Students.

6. THE PHYSIOLOGICAL MUSEUM.—This museum contains a large collection of Physiological Instruments, Microscopes and Microscopical Appliances, Diagrams, and Preparations, partly belonging to the University and partly to the Professor.

7. PRACTICE OF PHYSIC MUSEUM.—The Practice of Physic Museum contains pathological specimens, drawings, models, diagrams, and charts, the property of the Professor.

8. THE ANATOMICAL MUSEUM.—This Museum was founded in 1800 by Dr Monro, *secundus*, who presented his own Anatomical Collection, and that of his father, to the University, "to be used by his future successors in office for the purpose of demonstrating and explaining to the Students the structure, physiology, and diseases of the human body." In the year 1859, Sir David Monro, M.D., presented a collection of anatomical preparations, which had been formed by his father, Dr Alexander Monro, *tertius*. Numerous additions were also made to the Museum by the late Professor Goodsir, more especially in the department of Comparative Anatomy, and on his death the Senatus Academicus purchased from his representatives his Private Museum, which has been added to the Collection. The Museum now contains several thousand specimens in illustration of Human Anatomy, both normal and pathological, and of Comparative Anatomy.

The Conservator will be glad to receive contributions of rare and interesting specimens from Graduates and former Students of the University. He is especially desirous of making the collection thoroughly representative of the osteology of the different Races of Men, and requests the gift of skulls and other bones of the skeleton from present and former pupils.

The Collection was transferred in the Session 1884-5 to the University New Buildings for the School of Medicine in Teviot Row, where it is arranged in a large and handsome Hall possessing two galleries. It is open at certain hours to all matriculated students. The pathological collection is placed in the upper gallery. The spirit-preparations in illustration of normal Human and Comparative Anatomy are arranged in the lower gallery, The osteological collection is disposed in the cases on the floor of the Museum, and suspended in the centre of the Hall. In 1887 the Henderson Trustees committed to the custody of the Conservator of the Museum their valuable collection of crania and casts.

Conservator of the Museum, the Professor of Anatomy; Assistant-Conservator, Mr James Simpson.

9. CHEMISTRY MUSEUM.—Sir Lyon Playfair, on his resigna-

tion of the Chair of Chemistry, presented to the University the collection of chemical substances which he used in illustrating his lectures. This collection has been from time to time increased by presents from chemical manufacturers and others, and also by the addition of substances prepared in the University Laboratory.

10. THE OBSTETRICAL MUSEUM.—With the exception of a few wet and dry preparations left by Professor Hamilton, contains instruments, preparations, models, and diagrams, collected by Sir James Y. Simpson, and added to by the present Professor of Midwifery, to whom they belong.

11. THE MUSEUM OF NATURAL HISTORY.—The old Museum of Natural History was established in 1812 in connection with the University. It contained Zoological, Geological and Mineralogical Collections. The greater portion of it was formed by the exertions of Professor Jameson, who was for fifty years Professor of Natural History and Regius-Keeper of the Museum. In 1854 the Museum was transferred by the Town Council, at that time the Patrons of the University, to Government, under whose control it has since continued, and the whole of the collections were at that time removed from the rooms occupied by them in the University to the Natural History Department of the New Museum of Science and Art. They are still, however, available for the educational purposes of the University, and are freely accessible to the Students attending the classes of Natural History and Geology.

A Zoological Museum is now being formed in the University. Graduates, former Students and others interested in the Natural History Department will greatly aid in this important undertaking by presenting specimens to the Keeper—the Professor of Natural History.

12. MATERIA MEDICA MUSEUM. — The Materia Medica Museum contains one of the most complete collections of medicinal and food substances in this country. The collection was founded by Professor Andrew Duncan. His successor, Sir Robert Christison, during his long incumbency of the

Professorship, added a large number of valuable specimens, which were, for the most part, mounted by himself with singular neatness. The present occupant of the Chair has made further extensive additions. The Museum has been greatly enriched by interesting donations to the Professor from former members of the Class in all parts of the world. Besides the general collection, there is a Students' Reading Museum, containing specimens of the medicinal substances usually employed in this country, which has been formed and arranged by the present Professor of Materia Medica.

13. SURGICAL MUSEUM.—This collection was formed by the late Professor Spence, and has been largely extended by the present Professor, to whom it now belongs. During the last five years many additions have been made, both of pathological preparations and of plaster and gelatine casts, illustrative of Surgical Anatomy and Pathology. A complete catalogue may, on application, be consulted by practitioners of medicine.

THE ROYAL BOTANIC GARDEN AND ARBORETUM.

The Royal Botanic Garden and Arboretum, Inverleith Row, is connected with the University, in so far as the Professor of Botany delivers his Lectures in the Lecture-hall in the Garden. The grounds extend to about 60 acres, and there is an extensive range of Greenhouses and Hothouses, with a large Palm-house. There is an arrangement of herbaceous plants according to the Natural System.

The Garden is open daily. Specimens of plants for study are supplied to Students so far as practicable.

The Botanical Museum in the Garden is open daily to Students, and the University Herbarium, which is placed in the Garden, may also be consulted between the hours of 10 and 1, and 2 and 5, under the direction of the Professor or the Curator.

The Botanical Laboratory in the Garden is open daily for work and original research.

I.

FACULTY OF ARTS

(OR OF LITERATURE, SCIENCE AND PHILOSOPHY).

1891-92.

Dean.

PROFESSOR CHRYSTAL, LL.D.,
5 *Belgrave Crescent, Edinburgh.*

Programme of Classes.

SUMMER SESSION, 1891.

The Classes will be opened as follows, and will be closed on Friday, 17th July.

Classes.	Days and Hours.	Professors.	Class Fees.
Physical Laboratory.....	11 May, 10 o'cl.	Prof. Tait and Assistant.	£2 2
History	12 May, 5 ,,	Prof. Kirkpatrick	3 3
Sanskrit	4 May, 3 ,,	Prof. Eggeling,..	3 3
Engineering Field-Work (Surveying, Levelling, &c.)	16 June, 9.30 ,,	Prof. Armstrong,	3 3
Geology (*Mon., Wed., Fri.*).....	11 May, 4 ,,	Prof. Geikie, ...	3 3
Field Demonstrations *on Saturdays.*			
Elementary Hebrew[1] ...	4 May, 10 ,,	Prof. Adams and Assistant.	1 11 6

TUTORIAL CLASSES.

These Classes commence on Monday, 4th May, and close on Friday, 17th July.

Classes.	Hours.	Professors' Assistants.	Class Fees.
Senior Humanity.....	9–10	Francis R. Jamieson, M.A.	£2 2
Junior Humanity.....	10–11		
Third Humanity.....	12–1		
Junior Greek.....	9–10	John Alexander Smith, M.A. (Edin.), B.A. (Oxon.).	2 2
Senior Greek.....	10–11		
Third Greek.....	11–12		
Junior Mathematics.....	11–12	R. E. Allardice, M.A.	2 2
Senior Mathematics.....	12–1		
Advanced Mathematics.	10–11		
Natural Philosophy.....	11–12	William Peddie, D.Sc.	2 2
Analytical Dynamics....	9–10		
Logic & Psychology..... (*Mon., Wed., & Fri.*)	1–2	R. P. Hardie, M.A. (Edin.), B.A. (Oxon.)	1 11 6
Moral Philosophy..... .. (*Mon., Wed., & Fri.*)	12–1	Charles M. Douglas, M.A.	1 11 6
Rhetoric and English Literature	2–3	G. Gregory Smith, M.A. (Edin.), B.A. (Oxon.)	1 11 6

[1] To prepare Students for entering the Junior Class in Winter Session.

CLASSICS.—In the Senior Classes of Greek and Latin, Students are specially prepared for the M.A. Pass Examinations in Classical Literature to be held in October 1891 and April 1892. Most of the prescribed books will be read, and some Lectures will be given on the Literature. This course may with advantage be taken by those who have attended the Junior Classes and are about to enter the Senior next Winter Session, and by those who have completed the attendance required for the classical part of their Degree, but intend to go up for examination in October instead of April next. The Junior Classes are intended to meet the wants both of the less advanced students who have already attended the Winter Classes, and of those who are preparing to enter on the regular Winter Course for the first time in October next. Part of the work prescribed for the M.A. Pass Examinations in October 1891 and April 1892 will be read, and easier composition will be done. Advanced Classes in Greek and Latin will be formed for the reading of the more difficult authors. These Classes are intended as a preparation for the Advanced Winter Courses. The authors read will be specially selected to suit those preparing for University Scholarship Examinations, and for Classical Honours.

MATHEMATICS.—In the Junior Class of Mathematics the Lectures will be confined to the subjects necessary for the Junior Winter Course, namely, Plane Geometry, and the simpler portions of the Elements of Algebra. The Lectures in the Senior Class, being designed for those who have already attended the Junior Winter Course, or who wish to revise the work of the Senior Winter Course, will embrace Trigonometry, Algebra, and Conic Sections. These Classes afford to Students an opportunity of preparing either for the M.A. Pass or 1st B.Sc. Examination in Mathematics. In the Advanced Class of Mathematics, which has been instituted for the benefit of those preparing to join the Advanced Winter Course, Lectures will be given on Determinants, Theory of Equations, Co-ordinate Geometry, and the Elements of the Differential and Integral Calculus.

NATURAL PHILOSOPHY.—The Course of Lectures on Natural Philosophy will include a treatment of the laws of Heat, Light, Electricity, &c., and of the Elementary Principles of Dynamics. It will be specially adapted to the wants of Students preparing for the 1st B.Sc. or Departmental M.A. Examination in Physics, and for the Natural Philosophy and Mechanics Preliminary Examinations in Medicine and Science. The Advanced Course is intended for Students who are preparing for the Advanced Winter Course, or for the 2nd Science Examinations.

LOGIC AND PSYCHOLOGY.—To prepare for the Class of Logic and Psychology next Session, and for the M.A. Pass and other Examinations. Elements of Logic (Fowler or Jevons). Introduction to Psychology ("Selections from Berkeley," Fourth Edition). "Locke" (Philosophical Classics).

MORAL PHILOSOPHY.—To prepare for the Class of Moral Philosophy, and for the M.A. Pass and other Examinations. Professor's "Handbook"; Sidgwick's "History of Ethics."

RHETORIC AND ENGLISH LITERATURE.—Lectures on the History of English Literature and on the History of the English Language, with special attention to the subjects for the M.A. Examination. It is also proposed to form a Class for the study of Old English (Anglo-Saxon) and Middle English.

ADVANCED CLASSES will be conducted if a sufficient number intimate their intention of joining.

WINTER SESSION, 1891-92.

The classes will be opened on Wednesday, 21st October, and will meet daily (Saturdays excepted), unless otherwise stated. They will meet for the last time before the Christmas holidays on Friday, 18th December; will reassemble on Tuesday, 5th January 1892, and will be closed on Friday, 1st April 1892. The Annual Graduation Ceremonial in Arts, &c., will be held on Thursday, 14th April 1892.

Classes.	Days of Opening and Hours of Attendance.	Professors.	Class Fees.
First Humanity ...	21 Oct., 12 & 20'cl.	Prof.	£3 3
Second Humanity .	21 Oct., 10 ,,		3 3
Third Humanity ...	21 Oct., 2 ,,		2 2[1]
First Greek	21 Oct., 9 & 1 ,,	Prof. Butcher....	3 3
Second Greek	21 Oct., 11 ,,		3 3
First Mathematics	21 Oct., 12 ,,	Prof. Chrystal...	3 3
Second Mathematics..	21 Oct., 10 ,,		3 3
Third Mathematics....	26 Oct., 9 ,,		3 3
Logic & Psychology...	21 Oct., 1 ,,	Prof.	3 3
Metaphysics and Hist. of Philos. (*Mon. Thurs.*)	2 Nov., 3 ,,		2 2[2]
Moral Philosophy.....	21 Oct., 12 ,,	Prof. Calderwood	3 3
Do. Advanced... (*Tues. & Fri.*)...	3 Nov., 3 ,,		2 2[2]
Natural Philosophy...	21 Oct., 11 ,,	Prof. Tait	3 3
Do. (Advanced Class)	2 Nov., 10 ,,		3 3
Physical Laboratory..	9 Nov., 10 ,,		2 2
Rhetoric & English Literature.....	21 Oct., 4 ,,	Prof. Masson.....	3 3
History [3]			3 3
History and Const. of U.S.A. (*Mon.*, (*Wed. & Fri.*)	16 Oct., 3 ,,	Prof. Kirkpatrick	1 1[4]
Practical Astronomy .	27 Oct., 11 ,,	Prof. Copeland...	3 3
Agric. & Rural Econ.	21 Oct., 4 ,,	Prof. Wallace	4 4
Music.....	9 Nov., 3 ,,	Prof.	3 3
Sanskrit and Comparative Philology (Junior Class).....	3 Nov., 3 ,,	Prof. Eggeling	4 4
(Senior Class).....	,, 4 ,,		4 4
Engineering	3 Nov., 9 ,,	Prof. Armstrong	4 4
Do., Short Additional Course	11 Jan., 5 ,,		1 1[4,5]
Geometrical & Mechanical Drawing	4 Nov., 10 to 2 ,,		3 3

[1] The fee is £3, 3s. for those who have not previously attended the Humanity Classes qualifying for graduation.
[2] For those only who have previously attended the Junior Class.
[3] Given in Summer Session.
[4] Five shillings University entrance-fee for non-matriculated Students.
[5] No fee for Students of the regular Class in Engineering.

WINTER SESSION, 1891-92—*continued.*

Classes.	Days of Opening and Hours of Attendance.	Professors.	Class Fees.
Geology & Mineralogy (*Mon., Wed., & Fri.*)	2 Nov., 4 o'cl.	Prof. Geikie	£4 4
Practical Class (*daily*)	4 Nov., 3 to 4 ,,		2 2
Com. and Pol. Econ., and Mercantile Law.	28 Oct., 5 ,,	Prof. Nicholson	3 3
Economics as applied to Agriculture (Biennially) (*Mon., Wed., & Fri. till Christmas*)	Lectures Session, 1892-93.		1 1
Theory, Hist., & Art of Education	27 Oct., 3.10 ,,	Prof. Laurie	3 3
Fine Art (*Tu. & Th.*)	10 Nov., 5 ,,	Prof. Baldwin Brown	2 2[1]
Celtic Lang. & Lit. ...	3 Nov., 4 ,,	Prof. Mackinnon	2 2[2]

LECTURERS.

1. *Gifford Lectureship on Natural Theology.*
This Course of Lectures will be delivered during the Session 1891-92. *Lecturer*—Sir George G. Stokes, Bart., F.R.S.

Forestry	22 Oct. 2 o'cl.	*Vacant*	3 3[3]
Agricultural Entomology (Twenty Lectures)	5 Jan. 9 ,,	W. Fream, B.Sc. (Lond.)	2 2[3,4]

[1] For Students of the Royal Scottish Academy, £1, 1s.
[2] For Lectures only, £1, 1s.
[3] Five shillings University entrance-fee for non-matriculated Students.
[4] Free to all present and past Students of the Agriculture Class.

The following means are afforded for Practical Instruction :—

LABORATORIES.

THE PHYSICAL LABORATORY, established with the view of affording Students a practical knowledge of the construction and use of physical apparatus, and the mode of conducting experimental inquiries, is open daily from 10 to 3, under the superintendence of Professor Tait.

GEOLOGICAL AND PETROLOGICAL LABORATORY, for practical instruction in the study of Minerals, Rocks, and Fossils, and the methods

of plotting and drawing geological maps and sections, is open daily from 3 to 4, under the superintendence of Professor Geikie.

ENGINEERING DRAWING CLASS ROOM, open daily during the Winter Session, from 10 A.M. to 2 P.M., for practical instruction in drawing and drawing-office routine.

THE ENGINEERING (FULTON) LABORATORY, open on fixed days during the Winter Session, for the practical instruction of Students in the processes employed by the Engineer in the Experimental Determination of the Physical and Economical Constants of Materials, Machines, and Prime Movers, and in the Practical Applications of Electricity.

PRACTICAL INSTRUCTION IN OFFICE AND FIELD-WORK daily, in connection with the Summer Course of Lectures on Surveying, Levelling, &c., from 11 A.M. to 4 P.M. each day.

The AGRICULTURE DEPARTMENT in the Museum of Science and Art, is open daily to Students attending the Agriculture Class. Excursions to farms are made on Saturdays by Members of the Agriculture Class, and demonstrations are given from time to time in the Agriculture Laboratory.

The ROYAL OBSERVATORY is open to Students of Practical Astronomy on two evenings of the week, from 8 P.M.

MATRICULATION FEES.

For the Academical Year, 1st October to 1st October, .	£1	0	0
For the Summer Session only, 1st May to 1st October, .	0	10	0
University entrance-fee in lieu of Matriculation for each of certain short Courses (see Class Lists), . . .	0	5	0

The Curriculum in Arts.

—o—

THE Ordinary Curriculum in the Faculty of Arts, with a view to a Degree, extends over FOUR WINTER SESSIONS, and comprehends attendance on all the Classes enumerated in No. I. of the *Regulations for Graduation in Arts* (see p. 105).

But, by No. II. of these *Regulations* (see p. 105), those who pass an Entrance Examination in Latin and Greek sufficiently well to satisfy the Faculty that they are qualified to be admitted to the Higher Classes of Latin and Greek, may, if they please, complete the Curriculum in Arts, with a view to Graduation, within THREE WINTER SESSIONS; also those who pass an Entrance Examination in Mathematics, may dispense with one of the Sessions of attendance at the Mathematical Classes.

Those who desire, in accordance with this Regulation, to be freed from a Session of attendance in the *Latin and Greek Classes*, in order that they may thus be enabled to complete the Curriculum in Arts, with a view to a Degree, within THREE Winter Sessions, must present themselves for the Examination in Latin and Greek at the commencement of the FIRST SESSION of their attendance in the Curriculum of Arts.

Those who, in accordance with the same Regulation, also desire exemption from a Session of attendance in *Mathematics*, must also present themselves for examination in Mathematics at the *commencement* of the FIRST SESSION of their attendance in the Curriculum of Arts.

For the subjects of these Examinations in Latin, Greek, and Mathematics, see under *Entrance Examination for Curriculum of Three Sessions*, pages 109 and 110.

---

[1] The annual amount payable for Matriculation, Class Fees, &c., of the regular course in Arts may be estimated at about £10, 10s.

ORDER OF STUDY IN THE FACULTY OF ARTS.

It is particularly recommended by the Faculty—

1. That in a Curriculum of Four Sessions, the Junior Classes of Humanity, Greek, and Mathematics, or any two of them, be attended in the *First* Session.

   *** *Students who attend the Junior Mathematics, in their First Session, along with the Junior Humanity and the Junior Greek, may obtain a dispensation from attendance in the Junior Humanity from* 12 *to* 1 *o'clock.*

2. That Natural Philosophy be attended along with, or at any rate not before, one of the Mathematical Classes.

3. That in a Curriculum of Four Sessions, the Junior Class of Logic and Metaphysics be attended in the *Second* Session, or (alike in a Curriculum of Four and one of Three Sessions) at all events in a Session *preceding* that in which the Class of Moral Philosophy is attended.

—o—

PROFESSORIAL COURSES OF LECTURES.

I. HUMANITY—(Latin).

PROFESSOR

Junior Class—12 to 1 and 2 to 3.

The work of the Class consists of—

1. Daily readings and explanations of parts of Virgil, Horace, Ovid, or Tibullus, Livy, Sallust, and Cicero;—

2. Lectures on Roman History or Literature, and occasional prelections on Terence or some other Latin poet;—

3. Exercises in Latin Prose Composition;—

4. Written Examinations.

Books required—Bradley's Arnold's Latin Prose. Mommsen's History of Rome, abridged by Bryans and Hendry; Ramsay's Elementary Roman Antiquities.

Senior Class—10 to 11.

The work of the Class consists of—

1. Readings and explanations of parts of Virgil, Horace, Cicero (*Letters*, or *Speeches*); Tacitus (*Annals*, or *Histories*);—

2. Lectures on Roman Literature and History, and Prelections on some Latin author;—such as Plautus, Catullus, Martial, or Juvenal;—

3. Exercises in Latin Prose, and voluntary Exercises in Latin Verse;—

4. Written Examinations.

Books recommended—Mommsen's History of Rome, abridged by Bryans and Hendry; Merivale's Fall of the Roman Republic; Cruttwell's History of Latin Literature; Bradley's Aids to Latin Prose.

Third Class[1]—2 to 3.

The Third Latin Class meets every alternate year. It is intended to assist the studies of Candidates for University Scholarships and Honours in Graduation.

The work of the Class consists of—

1. Readings and explanations of some of the more difficult Latin Authors, such as Tacitus, Lucretius, Plautus, Martial, &c.;—

2. Lectures on Roman History and Literature, chiefly in connexion with the Books read in the Class;—

3. Essays on questions arising out of the Lectures or Books read, and Exercises in Latin Prose Composition;—

4. Written Examinations on the work done in the Class, and on subjects prescribed for voluntary reading.

II. GREEK.

PROFESSOR BUTCHER.

Junior Class—9 to 10 and 1 to 2.

The work of the Class consists of—

1. Readings of some Greek author, as Xenophon, Lucian, Plato (an easy dialogue), Homer, Euripides, or Aristophanes (selections).

2. Lectures once a week on Greek Literature or History.

3. Exercises several times a week in Greek Prose Composition.

4. Written Examinations, partly on the work done in the Class partly on work prescribed for private reading.

Books recommended.—W. G. Rutherford's Greek Grammar, and First Greek Syntax; Elementary Greek Syntax, by F. E. Thompson; Clyde's Greek Syntax; Jebb's Primer

[1] The Third Humanity Class will meet during the Session 1891-92.

of Greek Literature; Peile's Primer of Philology; Fyffe's Primer of Greek History; Cox's General History of Greece, or W. Smith's History of Greece, or Oman's History of Greece.

Senior Class—11 to 12.

The work of the Class consists of—

1. Readings of some Greek author, such as Thucydides, Demosthenes, Herodotus, Plato; Homer; a play of Æschylus, Sophocles, Euripides, or Aristophanes.

2. Lectures once a week on Greek Literature, History, or Philosophy.

3. Greek Prose Composition, or Translation of an Unseen Passage once a week, and a Lecture on the passage when the exercises are returned.

4. Written examinations partly on the work done in the Class, and partly on work prescribed for voluntary reading.

5. Greek Verse Composition (voluntary).

Books recommended—W. G. Rutherford's Greek Grammar, and First Greek Syntax; Goodwin's Greek Moods and Tenses; Greek Syntax, by F. E. Thompson; Sidgwick's Greek Prose Composition; Jebb's Primer of Greek Literature; Müller & Donaldson's History of Greek Literature; Jevon's History of Greek Literature; Cox's General History of Greece, or W. Smith's History of Greece, or Oman's History of Greece; Greek Verse Composition (Sidgwick and Morris); An Introduction to the Comparative Grammar of Greek and Latin, by King and Cookson.

Third Class[1]—2 to 3.

The Third Greek Class meets every alternate year. It is intended to assist the studies of Candidates for University Scholarships and Honours in Graduation.

[1] The Third Greek Class will not meet during the Session 1891-92.

The work of the Class consists of—

1. Readings and explanations of some of the more difficult Greek Authors, such as Thucydides, Demosthenes, Plato, Aristotle, Æschylus, Pindar, &c.

2. Lectures once a week on Greek Literature, History, or Philosophy.

3. Greek Composition and Translation of Unseen Passages.

4. Occasional Critical Papers and Essays.

5. Written Examinations, partly on the work done in Class, and partly on work prescribed for voluntary reading.

III. MATHEMATICS.

PROFESSOR CHRYSTAL.

First Class—12 to 1.

Plane Geometry equivalent to Euclid, Books i., ii., iii., iv., and vi. (in the lectures the arrangement of the *Syllabus of Plane Geometry*, prepared by the Association for the Improvement of Geometrical Teaching, is followed more or less closely); Solid Geometry, equivalent to Euclid, Book xi.; Modern Geometry; and Elementary Algebra.

Second Class—10 to 11.

Algebra, including the elements of the Theory of Equations, and of Determinants, and the Theory of Limits; Plane Trigonometry; Conic Sections, treated geometrically and analytically; Modern Geometry.

Third Class—9 to 10.

The Third Class Course now extends over two years, being in alternate years more elementary and more advanced.

The subjects of the elementary course are the more elementary parts of the Differential and Integral Calculus, and of the Calculus of Finite Differences, and the Analytical Geometry of the Conic Sections. It is assumed that the Student has acquired

a knowledge of the Theory of Equations, and of the elements of the Theory of Determinants before he joins the Class.

The subjects of the Advanced Course are the higher parts of the Differential and Integral Calculus; Differential Equations; Definite Integrals with special reference to Fourier's Theorem; Functions of Laplace and Bessel; Higher Plane Curves; Analytical Geometry of Three Dimensions.

Additional lectures on Quaternions, Projective Geometry, and other special subjects are given occasionally.

The course of the Session 1891-92 will be elementary.

Tutorial Classes.—In addition to the ordinary class lectures in the First and Second Classes, occasional lectures are given by the Class Assistant. The attendance on these is voluntary, and the time is devoted to the repetition of parts of the class lectures and to the working of examples.

Home Exercises are prescribed weekly in all the classes.

Written Examinations on the class lectures are held monthly during the Session. The class honours are determined solely by these examinations.

Text-Books.—As a rule *special* text-books are not prescribed; but the student is recommended to select from the following list:—

Geometry.—Wilson's Elementary Geometry, or the Text Books of the Society for the Improvement of Geometrical Teaching, and one or more of the following, for the sake of the exercises they contain:—Mackay's, Todhunter's, Nixon's, or Casey's edition of Euclid's Elements, and Casey's Sequel to Euclid.* [1]

Algebra.—Chrystal, or Todhunter, Gross, Chambers's Mathematical Tables.

Solid Geometry and Conic Sections.—Wilson, Taylor (smaller work), or Taylor* (larger work).

[1] Works marked with asterisks are recommended to those only who make Mathematics a specialty.

Trigonometry.—Walmsley, Todhunter, or Lock (M'Lelland and Preston*[1] for Spherical Trigonometry).

Analytical Geometry.—Smith's Analytical Conic Sections; and Dyer's Exercises in Analytical Geometry. Students intending to take the Third Class are recommended to get Salmon's Conic Sections, Salmon's Higher Plane Curves,* and Salmon's Geometry of Three Dimensions,* or, instead of the last, Smith's Solid Geometry.

Projective Geometry.—Cremona's Elements of Projective Geometry translated by Leudesdorf, or Henrici's Article on Geometry, Encyclopædia Britannica (9th edition).

Higher Algebra and Theory of Equations, etc.—Burnside and Panton's, or Todhunter's Theory of Equations; Thomson's Introduction to Determinants, and Muir* or Scott;* and Salmon's Higher Algebra for those who mean to read for Mathematical Honours.

Differential and Integral Calculus.—Williamson's Treatises; Forsyth's Differential Equations*; Frost's Curve Tracing;* Boole's Finite Differences.*

IV. LOGIC AND METAPHYSICS.

PROFESSOR

Logic and Psychology—Junior Class.

The Junior course, at *one* o'clock, comprehends :—

I. LOGIC—Introduction. Ultimate Criteria of Consistency in Thought. Concepts—their extent, content, and formal relations: Propositions—their forms, with the rationale of Definition and Division; Reasoning—its forms. Fallacies—their divisions, subdivisions, causes, and cure. Criteria of Inductive and Analogical Evidence—Scientific Proof: Evidence of Human Testimony and Authority, and Circumstantial Evidence—Historical Proof.

II. PSYCHOLOGY—Introduction. (A) General account of the

[1] See note on p. 79.

constitution of Man in his Self-conscious Life and as an Organism. (B) Special Account of Cognition :—(*a.*) Phenomena presented in Sense and their Sense-perception ;—(*b.*) Representation of data of sense, in Memory and Sensuous Imagination, under automatic laws of Association and Habit ; —(*c.*) Generalization and Inferential Understanding—inductive and deductive ;—(*d.*) Intuitive Reason.

Essays are proposed, and Written as well as Oral Examinations are held, in connection with the Lectures. The Professor's "Selections from Berkeley" (fourth edition) is used for exercise in psychological analysis ; Fowler's "Deductive" and "Inductive" Logic, for exercise in Logic.

Metaphysics—Advanced Class.

III. METAPHYSICS—This Class meets on Mondays and Thursdays at *three* o'clock.

The Course is an Introduction to Metaphysics or Fundamental Philosophy. It comprehends classification and discussion of some of the principal problems—epistemological, ontological, and teleological—which Metaphysics embraces, viewed in their relations to Science and Religion, and also in their Historical Development.

The subjects and books for Graduation with Honours are considered.

The "Bruce of Grangehill and Falkland Prize" is offered annually for competition. (*See* UNIVERSITY PRIZES.)

V. MORAL PHILOSOPHY.

PROFESSOR CALDERWOOD.

Ordinary Class.

The following are the subjects embraced in the Course of Moral Philosophy :—

INTRODUCTION.—Province and Aim of Moral Philosophy.

1. PSYCHOLOGY OF ETHICS.—Knowledge of Moral Distinctions ; form and source of this knowledge ; (*a.*) Intuitiona

Theory ; (*b.*) Evolution Theories, Biologic (Spencer), Utilitarian (Mill), and Dialectic (Hegel). Impulses to Action ; Restraints upon Action. The Will—its Nature, Functions, and Freedom. Moral Sentiments Accompanying Moral Judgments ; the Disorder of Moral Nature.

2. METAPHYSIC OF ETHICS.—The Being of God ; His Attributes ; His Moral Government ; the Foundation of Virtue ; the Relation of Divine Sovereignty to Free-Will ; the Relation of Human Desire to Divine Sovereignty ; the Origin of Evil ; the Immortality of the Soul.

3. APPLIED ETHICS.—Man's Position in the World ; Guidance of the Individual ; Formation of Moral Character ; Social Problems ; Natural Religion.

4. THE HISTORY OF MORAL PHILOSOPHY.—The Rise of Philosophy ; Distinction of Moral from Intellectual Philosophy ; Development of Systems of Moral Philosophy in Ancient and Modern Times.

The Course includes lectures, oral and written examinations, and essays.

Text-Books.—The Professor's "Handbook of Moral Philosophy ;" Kant's "Groundwork of the Metaphysic of Ethics ;" Schwegler's "History of Philosophy."

Books recommended for reference.—Price's "Principal Questions in Morals," Butler's "Sermons on Human Nature," Reid's "Active Powers," Mill's "Utilitarianism," Herbert Spencer's "Data of Ethics," Wallace's "Logic of Hegel," Hegel's "Philosophy of the State," Green's "Prolegomena of Ethics," Sidgwick's "Methods of Ethics," Fleming's "Vocabulary of Philosophy," Ueberweg's "History of Philosophy."

Advanced Class.

This Class is intended chiefly for those who have gone through the ordinary course. Study is concentrated on the history of Moral Philosophy.

Subjects of study.—The Ethical System of Socrates as presented in Xenophon's "Memorabilia," and in Plato's

"Protagoras" and "Apologia." The Moral System of Plato as developed in the "Republic," and other Dialogues. Aristotle's "Nicom. Ethics." The rise of Modern Philosophy; the "Method and Meditations" of Des Cartes; Spinoza's "Ethics." The Scepticism of Hume, and the fresh start of Philosophy subsequently. Kant's Ethical System; Hegel's Ethics; the development of Utilitarianism.

Books recommended.—Zeller's "Socrates and the Socratic Schools," Plato's "Republic," Jowett's Translation, Sir Alexander Grant's "Ethics of Aristotle," Zeller's "Stoics, Epicureans, and Sceptics"; Kant's "Practical Reason," Abbott's "Kant's Theory of Ethics," Hegel's Ethics in Morris's "Hegel's Philosophy of the State and of History," Grigg's Philosophical Classics, Green's "Prolegomena to Ethics"; Utilitarianism, as presented in Mill's "Utilitarianism," Spencer's "Data of Ethics," and in Sidgwick's "Methods of Ethics."

VI. NATURAL PHILOSOPHY.

PROFESSOR TAIT.

ORDINARY CLASS.

The subjects embraced in the Course of Natural Philosophy are the following :—

1. Properties of Matter—including Inertia, Gravitation, Molecular Forces, &c.
2. Abstract Dynamics—including Kinematics, Statics and Kinetics of Solid, Liquid, and Gaseous Bodies, with their applications.
3. Sound, and Wave-propagation in general.
4. Heat, with its application to the Steam-Engine, &c.
5. Light (Geometrical and Physical Optics).
6. Electricity, including Frictional and Voltaic Electricity, Thermo- and Magneto-Electricity, Electro-Dynamics, and Magnetism, with their practical applications to the Telegraph, &c.
7. Conservation of Energy.
8. Plane and Physical Astronomy.
9. Meteorology.

Properties of Matter, Abstract Dynamics, and Conservation of Energy, together with two or three others of the above divisions of the subject, are treated in detail every Session, the remainder being necessarily discussed in a more superficial manner, as it is impossible to enter at length into all in the course of a single Session.

It is intended that in Session 1891-92, in addition to Sections 1, 2, and 7, Sections 4 and 6 shall form the more detailed part of the Course.

The whole Class is examined at short intervals during the Session upon the subjects already treated in the Lectures; and a prize is given for the best answering. In these examinations no Mathematics are requisite, except the most elementary portions of Arithmetic, Algebra, and Geometry.

In the months of January and March there are special Examinations upon prescribed subjects; and, on these two occasions only, the Class is divided into two parts—the division depending mainly upon the students' proficiency in Mathematics. In the Lower Division, the elements of Algebra and Geometry alone are required; in the Higher Division, Algebra, Geometry, and the Geometry of the Conic Sections are necessary.

The Prizes in each division of the Class are determined by adding the marks obtained in the two sets of Examinations above described. No Student who has obtained a Prize in either Division of the Class can be allowed to compete, in a subsequent Session, for a Prize in the same or in a lower Division.

The Text-Book for the Dynamical part of the Course will be Thomson and Tait's "Elements of Natural Philosophy" (Pitt Press, Cambridge). For the remainder of the subject the student may consult some of the following books:—Clerk-Maxwell's "Matter and Motion," Jenkin's "Electricity," Balfour Stewart's "Lessons in Physics," Tait's "Properties of Matter," "Heat," and "Light."

The special Examinations in January 1892 will be on the following subjects:

Higher Division.

Newton's "Three Sections" (Goodwin's "Course of Mathematics," Frost's "Newton," or any good edition of the *Principia*).

Lower Division.

Herschel's "Astronomy," in Lardner's Cyclopædia, omitting the chapter on Perturbations. A series of explanatory lectures will be given by the Class-Assistant before this Examination.

The subjects for the March Examinations in both Divisions will be Kinematics and Dynamics. The range will depend upon the progress which the Class has made in these subjects.

Subject of Voluntary Essay to be given in before the end of March 1892—"The Continuity of the Liquid and Gaseous States of Matter."

ADVANCED CLASS.

For the benefit of Engineering Students, and of Arts Students wishing to Graduate with Honours in the Department of Mathematics, Professor Tait has opened an Advanced Class. Three lectures are given per week, and the subjects are—

Dynamics (generally),
Theory of Heat,
Physical Optics,
Theory of Electricity,

all treated with regard to their practical applications.

The text-book for the first of these subjects is the article *Mechanics*, in the last edition of the *Encyc. Brit.*

PHYSICAL LABORATORY.

This has been established with the view of affording Students a practical knowledge of the construction of, and manner of using physical apparatus, and with the mode of conducting experimental inquiries. The Laboratory is open for five or six hours daily during the Winter and Summer Sessions, under the personal superintendence of the Professor and his Class-Assistant. Fee, £6, 6s. for the Winter Session. It is hoped that, with the

valuable collection of apparatus in the Museum, results of real use to science may be obtained.

A practical class, for the instruction of beginners in the elementary processes of measuring Time, Mass, Length, Angle, Force, &c., will be formed in the Winter and also in the Summer Sessions. The course, in each case, will extend over about three months. The fee is £2, 2s. The Professor reserves to himself the right of admitting *free*, to general Laboratory work, such matriculated students of the practical class as may show special diligence and aptitude.

VII. RHETORIC AND ENGLISH LITERATURE.

PROFESSOR MASSON.

The business of the Class will comprehend :—

I. Till about Christmas, two parallel courses of Lectures : one on the Principles of English Style and Composition, with the relative portions of the Ancient Rhetoric ; the other on the Literary History of the British Islands as far as to 1250, with special attention to the Anglo-Saxon Literature, and with a view of the History of the English Language from its Anglo-Saxon stage to the beginnings of the present English.

II. From about Christmas to the end of the Session, a Course of Lectures on the History of English and Scottish Literature from 1250 to the present time : divided into Periods thus :— (1.) From 1250 to 1400, ending with Chaucer, Langland, and Barbour; (2.) From 1400 to 1580, including the English Poets from Lydgate to Wyatt, Surrey, and Sackville, and the Scottish Poets from James I. to Dunbar, Gavin Douglas, and Lyndsay ; (3.) From 1580 to 1625, called "The Elizabethan Period," and including Spenser, Bacon, Shakespeare, and their Contemporaries; (4.) From 1625 to 1688, or the Period of Milton and Dryden ; (5.) From 1688 to 1789, or from Dryden to Cowper and Burns, called generally "The Eighteenth Century"; (6.) From 1789 to the present time, or from Wordsworth and Scott to Tennyson and Browning. Under each period there will be a synopsis of its principal poets and prose-authors ; the lives

and writings of the more important of these will be reviewed more at large; and the general aim will be to exhibit the successive movements and variations of our Language and Literature in their connexions with the course of our National and Social History.

III. Instruction in English Composition, &c. During part of the Session one of the meetings in each week will be devoted to practical work of various kinds, including brief written exercises to be done by the Students in the Class-room. Subjects will also be prescribed for more extensive Essays to be written at home. There will be Prizes for merit in Essay-writing, in addition to the general Class-Prizes.

Text Books and Books recommended.—Bain's "English Composition and Rhetoric"; Hodgson's "Errors in the Use of English"; Morley's "First Sketch of English Literature"; Chambers's "Cyclopædia of English Literature"; "Three Centuries of English Poetry"; Morris's "Historical Outlines of English Accidence"; Sweet's "Anglo-Saxon Reader."

VIII. HISTORY.

(See also under Faculty of Law.)

A Course of Twenty Lectures on the History and Constitution of the United States of America will be given on Mondays, Wednesdays, and Fridays, at 5 o'clock, beginning 16th October, provided a sufficient number of Students present themselves.

IX. PRACTICAL ASTRONOMY.

PROFESSOR COPELAND.

Lectures on Practical Astronomy, preceded by an introductory address, will be delivered on Tuesdays and Thursdays. Supplementary to these the Professor will afford instruction *gratis* to any members of the class in the use of portable and fixed astronomical instruments, at the Royal Observatory on

Calton Hill, beginning at 8 P.M. on the same days of the week. In the practical lessons the requirements of the scientific traveller will be kept specially in view. In the course of the lectures the most desirable text-books will be indicated.

X. AGRICULTURE AND RURAL ECONOMY.

PROFESSOR WALLACE.

Scientific Practice.

1. *Definition of Agriculture.*—Aid given by the Allied Sciences.

2. *Surface Geology.*—Formation and Classification of Soils—their Physical and Chemical Properties. Importance of Organic Nitrogen. Indications of good or bad Soils—the different Methods of Management and Improvement.

3. *Drainage.*—Its Practice and Advantages—Irrigation—Wet-Warping—Mixing or Top-Dressing—Claying—Marling—Chalking—Liming—Paring and Burning—Clay-Burning. The Effect on Soils of Cultivation and the Growth of Plants.

4. *Implements and Machines of the Farm.*—The Importance of their proper Construction and careful Management.

5. *Steam Cultivation.*—Its Advantages and Disadvantages.

6. *The Motive Powers Employed on the Farm.*—1st, Man; 2d, Horse; 3d, The Mechanical Powers (Water, Wind, and Steam)—their Comparative Values and Advantages.

7. *Farm Servants.*—Their Labour and Wages—Day-work and Piece-work. Detailed and total costs of Horse and Hand Labour on different Classes of Farms.

8. *The Importance of Rotations.*—Different Rotations and reasons why they are adopted—Systems of Farming.

9. *Our Farm Crops* (including Grain, Root, Forage, and Hay Crops).—Their Selection and Cultivation. Insect Injuries and Diseases, and the best Means of Prevention.

10. *Identification of Grasses and other Valuable Pasture Plants.*—Character and Habits of those of importance—Detection of Adulterations of Seeds—Regulations necessary to protect the Farmer in buying Seeds.

11. *The Management of Permanent Pasture.*—Proper Methods of making new Pasture—its After-treatment.

12. *Weeds in Pastures* and Means of Destroying them.

13. *Silage and the System of Ensilage.*—Its Advantages, &c. —Its Suitability and Unsuitability according to Locality.

14. *Manures.*—Farm-yard Manure—its proper Mixing, Storing, and Application—its great advantage as a General Manure. Special Manures and so-called Artificials—their Uses, Abuses, and Adulterations—the proper Times and Methods of their Application. The Value of Liquid Manure and Town Sewage, and how to utilise them.

15. *Buildings and Fences.*—The proper Construction of Fences—the General Arrangement of Farm-Buildings—the best Flooring and Inside Plans and Dimensions of Byres, Cattle-Sheds, Stables, &c.—Covered Yards—Ventilation—Drainage.

16. *Live-Stock, embracing Cattle, Pigs, Horses, Sheep, Poultry.*—The Various Breeds of each, and suitability of some to Local Conditions—"The Principles of Breeding." Feeding and Management—Cost of Feeding—Proper Mixtures of Food to Use. Cost of the Production of a Stone of Beef, Mutton, and Pork, showing the Amount of Profit in each case.

17. *Dairying in all its Branches*, including the suitability or otherwise of surrounding Conditions—the proper Classes of Dairy Stock to keep, and their Management—the Treatment of Milk, and its Sale, or its Manufacture into Cheese, Butter, &c.

18. *Feeding Stuffs.*—Suitability of the Common Food Substances to the different Classes of Farm Stock—the Purchase, Storing, and Administration of the same—their Manurial Residues. The lectures dealing with Live Stock and Dairying are divided into two parts, and each part is given every alternate year.

Text-Books.—Wallace's "Farm Live Stock of Great Britain," M'Connell's "Note-Book of Agricultural Facts and Figures," J. B. Harris's "Cheese and Butter Making," Fream's "Rothamsted Experiments," and "Soils and their

Properties," and M'Alpine's "How to know Grasses by the Leaves."

Students are requested to consult with the Professor of Agriculture at the beginning of the Session as to the plan and arrangement of their work.

In connection with the Class there are, in addition to the Medal and First and Second Class Certificates, the Steven Scholarship of about £75 and the Vans Dunlop Scholarship of £100. Particulars will be found under *Scholarships* in the Faculty of Arts. The Highland and Agricultural Society of Scotland gives £10 to be spent on Books for Class Prizes. The Highland Society also offers five £20 Bursaries to Scotch students who pass a certain standard in a general education examination held usually in the end of October. Particulars may be learned from the Secretary, Highland and Agricultural Society, 3 George IV. Bridge.

Periodical Excursions will be made to some of the best Farms in the Lothians.. A Medal is given to the student who writes the best report of the same.

Collateral Course in Economics.

Professor Nicholson will deliver, in alternate years, about twenty lectures on *Economics bearing on the Study of Agriculture:*—1. The Food Supply of the United Kingdom; 2. The Wages of Agricultural Labour; 3. The Profits of the Farmer; 4. The Rents of Land and Causes of Variations in Rents; 5. Contracts for the Hire of Land; 6. The Risks of Long Leases; 7. Compensation for Improvements; 8. Fixity of Tenure and its Effects; 9. The Prices of Agricultural Produce; 10. Foreign Competition; 11. Effects of the Appreciation of Gold and the Depreciation of Silver; 12. Effects of various Imperial and Local Taxes on Agriculture. Next course in Session 1892-93. (Fee one guinea.)

See also details of a prospective Course in Forestry, suitable for Agriculture Students.

XI. MUSIC.

PROFESSOR

A scheme for the institution of a Faculty or Department of Music, and of a Curriculum and Graduation, has been approved by the Senatus, and a Draft Ordinance has been adjusted by the Court and submitted to the Universities Commissioners. The following course can therefore only be conditionally indicated :—

1. Theoretical. Lectures on one or more of the following subjects :—

On Harmony, and (provided that a sufficient number of Students join the Class) on Counterpoint ; or on the History and Development of the Art and Science ; various schools and styles of Music ; History and construction of some of the principal Musical Instruments ; or on the works of the great masters.

2. Practical. Separate and Individual instruction in Organ or Pianoforte playing may be given to Students within a certain age ; but arrangements must depend on the number joining this Class. Both Classes are required to study Harmony.

Organ Performances from time to time during the Session.

A Choral Class may be formed.

XII. SANSKRIT AND COMPARATIVE PHILOLOGY.

PROFESSOR EGGELING.

A.—Sanskrit Language and Literature.

1. *Junior Class.*—Grammar and Exercises. Easy Sanskrit Texts such as the Hitopadeśa and selections from the Epic Poems. Easy translations from English into Sanskrit.

2. *Senior Class.*—Repetition of Grammar. Translations from English into Sanskrit. Sanskrit Texts such as Kālidāsa's Raghuvaṅśa or Sakuntalā ; Mrichchhakatikā ; Manu's Institutes of Law ; selected Hymns of the Rigveda.

The Course will also include a general view of the history of Sanskrit Literature.

B.—Comparative Philology.

A course of lectures will be delivered on the principles of Indo-European Comparative Philology, and the history of Linguistic Studies: provided that a sufficient number of Students or Matriculated persons be willing to attend.

XIII. ENGINEERING.

PROFESSOR ARMSTRONG.

Winter Session.

I. Class of Engineering.—The Object of the Course will be to show the practical application of Science to some branches of Engineering. The Series of Lectures will form a Two Years' Course, so arranged that Students can enter the Class at the beginning of either year. The following are the subdivisions of the subject matter of the complete Course, a part only of each subdivision being dealt with each year :—

1. Applied Mechanics; 2. One Branch of Civil Engineering; 3. One Branch of Mechanical Engineering; 4. A Series of Examples of the Application of Machinery to Manufacturing Purposes.

Synopsis of the Lectures for the present Session :—

1. Principles of Statics; couples; moments of forces; parallel and inclined forces; centre of gravity; moment of inertia; friction.

2. Hydrostatics.

3. Principles of Kinematics. Newton's laws of motion. Conservation and transformation of energy.

4. Hydrokinetics.

5. Arrangement and construction of water-works for the supply of towns.

6. Drainage, ventilation, warming, and sanitary requirements.

7. Water-wheels, pumps, and turbines.

8. Millwork and gearing, spur and bevil wheels.

9. Efficiency of various modes of transmitting power.

10. Locomotives.

11. Elements of machine design.

Four Examinations are held during the Session; and each week, unless there be an Examination, exercises are given to be worked at home. The questions set are such as are met with in the practice of Engineering; and the papers being returned to the Students, annotated and corrected, form a body of Examples for subsequent reference.

Engineering Works and Factories will be visited by the Class, under the guidance of the Professor.

II. CLASS OF GEOMETRICAL, MECHANICAL, AND ARCHITECTURAL DRAWING.—Students can attend this Class at any time between the hours of 10 A.M. and 2 P.M. each day. Work will be examined and instructions given by the Professor at 10 A.M. At other times the Class will be in charge of an Assistant.

All Students are recommended to take the Classes in Engineering and Drawing together.

The Class in Drawing may also be attended with advantage by those who propose in subsequent years to attend the Class in Engineering, as it is of great importance that Students should be able to readily understand mechanical diagrams, and to apply the graphic methods of calculation frequently employed by Engineers.

Instruction is given in the elements of Geometrical Drawing, the making of figured sketches from actual measurements, and subsequently in the Design and preparation of Working Drawings of Structures and Machines.

III. ADDITIONAL COURSES.—Short courses of lectures on special subjects, treated in detail, will be given from time to time.

During the present Session there will be such a course of about twenty lectures, the subject of which will be duly announced.

IV. TUTORIAL CLASS.—A Tutorial Class, at which the questions proposed in the Weekly Exercises are discussed and explained, is held each week.

There is no extra Fee required for either of the foregoing (III. and IV.) from Students attending the Ordinary Class in Engineering (I.).

V. THE FULTON ENGINEERING LABORATORY.—In this Laboratory Students receive practical instruction in the processes employed by the Engineer in the experimental determination of the physical and economical constants of materials, machines, and prime movers, and in the practical application of electricity.

Summer Session.

V. ENGINEERING FIELD-WORK.—A course of Practical Instruction in Surveying, Levelling, Setting Out, and Calculation of Quantities, is given during the Summer Session.

The course consists of lectures, and of practical work, as undertaken in the field and in the office, and occupies the whole of each day for about three weeks. The number of hours during which instruction is given, is thus made to correspond to an ordinary course extending over a much longer period.

Course of Study.

The following course of study is recommended :—

1*st Year.*—Mathematics (1st Class), Geometrical Drawing, Chemistry, Engineering Field-Work, Geology (Summer Session).

2*d Year.*—Mathematics (2d Class), Natural Philosophy, Engineering, Mechanical Drawing.

3*d Year.*—Natural Philosophy (Advanced Class), Engineering and Drawing.

If the Student is sufficiently well prepared, some modification of the foregoing may be found desirable.

For particulars of Scholarships, &c., tenable in connection with the Department of Engineering, see SCHOLARSHIPS, (Arts, &c.).

A detailed Syllabus of Lectures and Courses of Instruction in the Department of Engineering is issued annually, and may be had on application.

XIV. GEOLOGY AND MINERALOGY.

PROFESSOR JAMES GEIKIE.

Winter Course.

I. CLASS OF GEOLOGY AND MINERALOGY.—This Class meets on Monday, Wednesday, and Friday, at 4 o'clock. The Course embraces a system of instruction in the following subjects :—

1. *The History of Geology*—an outline of the growth of the science from the time of the early cosmogonies downwards.

2. *Dynamical Geology*—a discussion of the nature and causes of geological changes effected on the surface and within the interior of the earth.

3. *Mineralogy*—an account of the physical and chemical characters of minerals, and a description of some of the more important and typical species in the various mineral groups.

4. *Petrology*—a description of the various families of rocks.

5. *Structural Geology*—a description of the geological structure and relations of rock-masses to each other.

6. *Palæontological Geology*—an account of the nature and use of fossils in geological inquiry.

7. *Historical Geology*—the history of the successive geological periods.

8. *Physiographical Geology*—an inquiry into the origin of the present outlines of the earth's surface.

9. *Speculative Geology*—an inquiry into the present physical conditions of the crust and interior of the earth; the origin of the greater physical features of the earth's surface; and the causes which have induced changes of climate.

Text-Books—"Outlines of Geology," by the Professor (*Stanford*); Rutley's "Mineralogy" (*Murby's Science Class-books*); or Dana's "Manual of Mineralogy and Petrography." More detailed works of reference, most of which are in the College Reading-Room, are recommended for each branch of the lectures.

II. CLASS OF PRACTICAL MINERALOGY AND GEOLOGY.—This Class meets for one hour daily (3 to 4), except on Satur-

days, under the superintendence of Professor Geikie. The course of instruction is as follows :—

1. *Blowpipe Analysis of Minerals.*
2. *Macroscopic and Microscopic Examination of Minerals and Rocks.*
3. *Palæontology.*
4. *Construction of Geological Maps and Sections.*

Text-Books.—Various works of reference, most of which will be found in the College Reading-Room, are recommended.

This Class may be attended by Students who are not following the Course of Lectures on Geology and Mineralogy.

III. Field Demonstrations.—Short excursions are made on Saturdays to places of geological interest in the neighbourhood of Edinburgh, when the Class Lectures are illustrated by demonstrations in the field, and practical instruction is given in Geological Surveying. At the close of the Session (usually in the last week of April) an excursion, extending over a week or thereabout, is made for the purpose of examining the structure of a more distant district.

These Field Demonstrations are open to Students attending either the Class Lectures or the Practical Class.

Adjoining the Geology Class-room there is a small museum exhibiting the characters of minerals and rocks, and the typical fossils of the different geological systems.

Summer Course.

The following subjects are dealt with in this Course :—

1. *Petrology.*—(The lectures are illustrated by demonstrations in the Laboratory and the Class Museum.)
2. *Palæontological Geology.*—(A collection of the typical fossils of the different formations occurring in Britain will be found in the Class Museum.)
3. *Structural Geology.*—Under this head *Dynamical Geology* is discussed in more or less detail.

4. *Geological Surveying.*

5. *Economic Geology: application of Geology to Mining, Engineering, Agriculture, Public Health, &c.*

6. *Physiographical Geology.*

Structural Geology and *Geological Surveying* form the principal portion of this Course, but no previous knowledge of Geology is required on the part of the student—the elementary principles upon which the science is based being set forth both in the lecture-room and the field. The Class meets on Mondays, Wednesdays, and Fridays at 4 o'clock, and a short series of practical lessons on the study of rocks will be given at the commencement of the Session on Tuesdays and Thursdays at the same hour. The Saturdays are devoted to field demonstrations, when the mode of geological mapping and section-drawing is explained and illustrated.

XV. COMMERCIAL AND POLITICAL ECONOMY AND MERCANTILE LAW.

PROFESSOR NICHOLSON.

The Lectures will follow the order of arrangement of John Stuart Mill's *Principles of Political Economy.*

1. METHODS USED IN ECONOMIC SCIENCE.—Analysis of Fundamental Conceptions, Wealth, Capital, &c.

2. PRODUCTION OF WEALTH.—Division of Labour—Accumulation of Capital—Growth of Population.

3. DISTRIBUTION OF WEALTH.—Socialism—Land Tenure—Wages—Profits—Rent—Trade Unions.

4. VALUE.—Money—Inflations and Depressions of Trade—Commercial Crises—Banking—Free Trade—Foreign Exchanges—Stock Exchange.

5. ECONOMIC PROGRESS.—Effects of Progress on Value, and on the relative Distribution of Wealth.

6. PRINCIPLES OF THE LIMITS OF GOVERNMENT INTERFERENCE WITH INDUSTRY.—Direct and Indirect Taxation—Inci-

dence of Taxes—National Debts—Contracts—Joint Stock Companies—Patents—Copyrights.

Although Mill will be used as text-book, references will be constantly given to previous writers, *e.g.*, Adam Smith and Ricardo, as well as to more recent writers, *e.g.*, Sidgwick, Walker, Jevons, Marshall, Bagehot, &c.

History.—One lecture a-week will be devoted to the Economic History of England. This course is not intended to give the history of the Theory of Political Economy, but to trace the principal facts and institutions in the material and social life of the English people from an economic standpoint, *e.g.*, Gilds, Feudal System, Land Tenures, Ecclesiastical Influence, Serfdom and the Poor, Forms and Amount of Wealth, Foreign and Internal Trade, &c.

Agriculture.—A course of about twenty lectures will be given, in alternate years, specially adapted for Students in Agriculture. Fee, One Guinea. (See AGRICULTURE.)

XVI. THEORY, ART, AND HISTORY OF EDUCATION.

PROFESSOR S. S. LAURIE.

THEORY, OR SCIENCE, OF EDUCATION.

The End of Education generally. The relation of the School to this end.

Materials of Instruction conducive to the attainment of the end. Relative value of subjects. Distinction of Real and Formal. Physiology and its Educational Lessons.

SCIENCE OF EDUCATION—I. The Psychology of Intelligence in its educational relations fully treated. Periods of Growth. The Rules of the Art which the Science yields.

Rules of the Art or Method.—Exposition showing their derivation from the Science. Application of the Rules to teaching of—

(1.) Real Naturalistic subjects, *e.g.* Object-lessons, Science, Geography.

(2.) Real Humanistic subjects, *e.g.* Language, Literature, Economics, History, &c.

(3.) Formal subjects, *e.g.* Arithmetic, Geometry, Grammar.

II. Moral Psychology. Rules of the Art of Moral Training and Discipline. Motives—The Authority of the Teacher, its Conditions. Punishments, and Rewards, &c., &c.

The Organisation of a School. Organisation of a State-system. The Manual and the Technical in Instruction. School-appliances.

History of Education and of Theories.

Only select portions of this course can be dealt with in any one Session.

1. Education in China. 2. Education of the Hindu Races. 3. The Education of the Ancient Persians. 4. Education among the Egyptians and the Semitic Races. 5. Education among the Hellenic Races. The educational views of Plato and Aristotle. 6. Education among the Romans. 7. Detailed analysis and exposition of the Institutions of Quintilian. 8. Plutarch. 9. Survey of the History of Education from Constantine to the Revival of Letters. 10. Erasmus, Colet, Luther, Melancthon, and John Sturm. 11. Roger Ascham: Exposition of "The Scholemaster." 12. Lord Bacon. 13. Ratichius. 14. Comenius. *Realism and Utility as opposed to Humanism and Culture.* 15. Milton's Educational views. 16. Analysis and exposition of John Locke's "Thoughts on Education," and the "Conduct of the Human Understanding." 17. Rousseau, Basedow, and Campe. 18. Dr Andrew Bell and Joseph Lancaster. 19. Analysis and exposition of Pestalozzi. 20. Jacotot. 21. Fröbel. 22. Jean Paul Richter. 23. Diesterweg. 24. Dr Arnold. 25. Herbert Spencer and contemporary Realism.

N.B.—*Three written Examinations will be held during the Session, and Three Essays on educational method called for.*

PRACTICE IN TEACHING.—Arrangements are made for securing *Practice in Teaching* to the extent of the Government requirements. Fee for this, £1, 1s. Facilities are also given for visiting one or two of the principal schools, and acquiring a knowledge of their organization.

Books necessary.—The Professor's "Language and Linguistic Method." "Comenius' Life and Educational Writings," by the Professor. *Books recommended:* Professor's Book on Primary Instruction, and Herbert Spencer on Education. John Locke's Thoughts on Education, and on the Conduct of the Understanding.

XVII. FINE ART.

PROFESSOR BALDWIN BROWN.

I. A Course of forty lectures on *The Natural History of Art*, dealing with the general subject of the Fine Arts in their origin, history, and relation to human life as a whole, will be delivered on Tuesdays and Thursdays, at 5 P.M. The general treatment of the subject will follow the lines of the Professor's manual, "The Fine Arts" (published by John Murray, London), which will be used as a text-book for the lectures.

The Cousin Prize, £15, will be awarded for the best set of eight Essays on subjects treated of in the Lectures of the Session.

XVIII. CELTIC LANGUAGES AND LITERATURE.

PROFESSOR MACKINNON.

The class meets on five days in the week at 4 P.M. For Session 1891-92 the work of the class will be arranged as follows :—

1. Monday and Wednesday, Lectures on the Celtic Languages, Literature, and History.

2. Tuesday and Thursday, Reading and Exposition of Gaelic Poets and Prose Authors.
3. Friday, Reading of Old Gaelic and Manuscripts.

The Course of Lectures for 1891-92, which may be attended separately, will consist of two parts:—(1.) Celtic Philology. In 1891-92 the Lectures will deal with the Roots, Stems, and Forms of the Language. (2.) Lectures on Gaelic Literature and Topography.

The Readings on Tuesdays will be selected from the first Part, and on Thursdays from the second Part, of the Class Reading-Book.

On Fridays the Advanced Section of the Class will read old Gaelic and Manuscripts.

The books recommended are—

1. In connection with the Lectures:—Zeuss's "Grammatica Celtica"; Curtius's "Greek Etymology"; Schleicher's "Comparative Grammar"; Brugmann's "Elements of the Comparative Grammar of the Indo-Germanic Languages"; Rhys's "Lectures on Welsh Philology."
2. For the Reading Class:—(*a*) Junior Division—Class Reading-Book (Part First); Gaelic Grammar and Exercises (Stewart's Grammar); (*b*) Senior Division—Class Reading-Book (Part Second); Stewart's Gaelic Grammar; O'Donovan's Irish Grammar; Windisch's "Kurzgefasste Irische Grammatik"; Stokes on "Celtic Declension."

Several prizes will be offered for competition to Students of the Class.

A special prize will be given for the best Essay on Holy Scripture in the old Gaelic Church. The Essay to be given in by December 31st, 1891.

LECTURESHIPS.

GIFFORD LECTURES ON NATURAL THEOLOGY.

LECTURER—

These Lectures were endowed by the late Adam Gifford, Senator of the College of Justice, "for promoting, advancing, teaching, and diffusing the study of Natural Theology, in the widest sense of that term."

The Course will be delivered during the Session 1891-92.

FORESTRY.[1]

Class meets daily from 2 to 3. The following subjects will be treated in detail.

1. *Forest Botany.*—Tissues and organs of trees. Structure, properties, and identification of British timbers. Laws of growth.

2. *Sylviculture.*—Habit of trees and their behaviour towards light, heat, moisture, soil, climate, injuries, &c. The more important sylvicultural systems. Treatment of woods as regards establishing, thinning, and regenerating.

3. *Forest Pathology.*—Diseases due to fungi, soil, and atmospheric influences: their prevention and remedy.

4. *Forest Zoology.*—Mammals, birds, and insects, injurious to trees, and the means of preventing their attacks.

5. *Forest Utilization.* — Felling and transport of timber. Secondary forest produce.

6. *Forest Mensuration and Valuation.* — Measurement of felled and growing timber. Means of ascertaining annual, current, and periodic increments in trees and woods, as regards height, mass, section, diameter, quality, and value.

[1] As a Lecturer in Forestry has not yet been appointed, it is not quite certain that this course will be continued during the Session 1891-92, but information may be had later, on application to the Secretary.

AGRICULTURAL ENTOMOLOGY.

Course of 20 *Lectures, with Laboratory Demonstrations.*

STEVEN LECTURER—DR W. FREAM, B.Sc. LOND., F.L.S., F.G.S., ETC.

(*Free to Present and Past Students of the Agricultural Class.*).

The position of Insects in the Animal Kingdom.

The morphology and physiology of Insects, particularly in so far as a knowledge of these can be turned to useful account in baffling the attacks of insect pests. The structural modifications of the mouths, legs, and wings of Insects.

The life-history of insects.

Enunciation of the general principle that where the life-history involves a series or cycle of changes, the measures of suppression should be directed against the weakest link in the chain. Illustrations.

Methods of insect attack, and the enormous losses consequent thereon. Incidentally :—

(*a*) The stage in the life-history of the insect at which it becomes actively injurious.

(*b*) The period in the growth of the crop when insect injury begins, and the organs of the plant which are attacked.

Methods of *prevention* of insect attack, as distinguished from methods of *remedy*.

The *general* methods of prevention or remedy, as distinguished from the *special*. The former are, in the main, agricultural. The latter usually involve the application of specific insecticides, or the subjection of the crop to a course of treatment distinct from ordinary agricultural operations.

Insecticides : the composition and properties of the more important. The methods of application.

Mechanical appliances for the distribution of insecticides.

The inter-relationship of economic entomology and systematic botany.

The natural enemies of insects; particularly (*a*) insectivorous mammals and birds, (*b*) other insects, (*c*) parasites.

The classification of insects, directed especially to the means of identifying injurious insects in the several stages of their life-history.

The characters of the natural orders of insects illustrated by genera which furnish destructive species.

Special discussion of the natural orders Coleoptera, Hymenoptera, Lepidoptera, Homoptera, and Diptera.

Convenient groupings of insects—

(*a*) According to the crop attacked.

(*b*) According to the mode of attack.

A detailed discussion of the chief insects injurious to cultivated plants and to farm live stock in Britain, with methods of prevention and remedy.

These insects include, *inter alia*—Wire-worms, weevils, turnip flies, bark beetles, thrips, saw flies, sirices, surface caterpillars, winter moths, codlin moths, goat moths, leopard moths, magpie moths, cabbage butterflies, aphides, scale insects, mangel flies, cabbage flies, onion flies, Hessian flies, wheat midges, gout flies, frit flies, celery flies, leather jackets, ox warble flies, sheep's nostril flies, gad flies.

Other pests, outside the class Insecta; such as millipedes, arachnids, eelworms.

The present position of agricultural entomology in Britain and other countries, and the remarkable advances which have been made in the study during the last decade.

The entire course of lectures is profusely illustrated by carefully prepared natural specimens, the characters of which are demonstrated to students by the Lecturer. The instruction is further facilitated by an unique set of specially prepared coloured diagrams, from the pencil of Miss Ormerod.

Graduation in Arts.

REGULATIONS OF THE UNIVERSITY OF EDINBURGH RELATIVE TO THE DEGREE OF MASTER OF ARTS (M.A.)

(*Applicable to all who have entered their Academical Course since* 31*st October* 1861.)

The Degree of Master of Arts admits to the General Council of the University, to professional Study for the Learned Professions, to the Army, &c. Under recent regulations, framed in virtue of the Education Act (1872), *the Degree qualifies for Masterships of Public Schools, subject to an examination in the methods of instruction, and three months' attendance in a Public School for the practice of teaching.*

I. The ordinary Course of Study necessary for the Degree of Master of Arts (except in the circumstances mentioned in the following Article) extends over FOUR WINTER SESSIONS, and includes attendance for *not less than two Sessions* on the Classes of Humanity (Latin), Greek, and Mathematics respectively; attendance for not less than one Session on the Classes of Logic and Metaphysics, Moral Philosophy, and Natural Philosophy respectively; and also attendance on the Class of Rhetoric and English Literature.

II. Any Student who, at the time of his Entrance to the University shall satisfy the Professors of the Faculty of Arts, on Examination, that he is qualified to attend the Higher Classes of Latin, Greek, or Mathematics, or any one of them, may be admitted to such Higher Class or Classes without having previously attended the Junior Class or Classes in the same department. When a Student has been thus considered by the Faculty of Arts to be qualified for admission to the Higher Classes both of LATIN and GREEK, without having previously attended the First or Junior Latin and Greek Classes, his Course of Study for the Degree of Master of Arts may be completed within THREE WINTER SESSIONS, instead of Four. And no Student who is thus qualified for admission to the Higher Class of LATIN and GREEK, or of MATHEMATICS, without having previously attended the First or Junior Class in the same department, is required to give attendance in Latin, Greek, or Mathematics respectively, for more than *one* Session, as a necessary part of the Course of Study for the Degree of Master of Arts.

III. In pursuing the Course of Study for the Degree of Master of Arts, no Student is permitted to pass from the Junior to the

Higher Class, unless the Professor is satisfied of his fitness to enter the Higher Class.

IV. It is in the power of any Student, who has given attendance during one or more Sessions in any Scottish University, to complete his Course of Study, by giving attendance in the University of Edinburgh during the remaining Sessions of his Course; provided always that every such Student gives attendance in the University of *Edinburgh* during, at least, the *last Two Sessions* of his Course; and provided also that he produces, to the satisfaction of the Faculty of Arts of the University of Edinburgh, Class Certificates of his attendance at the former Scottish University—but he must be examined in all the three Departments necessary for the Degree of Master of Arts by the Examiners of the University of Edinburgh.

V. Candidates for the Degree of Master of Arts must be examined on all the subjects of instruction embraced in the above Course of Academical Study; and the examinations may be conducted wholly in writing or partly *viva voce*.

VI. Any Student who has completed his attendance on the Classes of

LATIN AND GREEK,

required in the prescribed Course of Study, may be examined on these Subjects, at any Examination for Degrees, although he may not have completed his attendance on the other Classes of the prescribed Course.

In like manner, any Student who has completed his attendance on the Classes of

LOGIC AND METAPHYSICS, MORAL PHILOSOPHY, AND RHETORIC AND ENGLISH LITERATURE,

may be examined on these Subjects, at any Examination for Degrees, although he may not have completed his attendance on the other Classes of the prescribed Course.

Also in like manner, any Student who has completed the attendance required in the prescribed Course of Study on the Classes of

MATHEMATICS AND NATURAL PHILOSOPHY,

may be examined on these subjects at any Examination for Degrees, although he may not have completed his attendance on the other Classes of the prescribed Course.

And if such Student shall satisfy the Examiners, when so examined, in the Department of CLASSICAL LITERATURE,

which comprehends Latin and Greek—or in the Department of PHILOSOPHY, which comprehends Logic and Metaphysics, Moral Philosophy, and Rhetoric and English Literature—or in the Department of MATHEMATICS and PHYSICS, which comprehends pure Mathematics and Natural Philosophy, he shall receive from them a CERTIFICATE to that effect, and he shall not be examined again in the same Department, as a condition of his taking the Degree of Master of Arts.

VII. Students who have fulfilled the preceding conditions, and have passed the ordinary Examinations on the several subjects embraced in the prescribed Course of Study, are, after signing the *Sponsio Academica*, and on presenting themselves at the Public Ceremonial of Graduation in April, entitled to receive the Degree of Master of Arts; and their names are published in the UNIVERSITY CALENDAR, in alphabetical order, in the Graduation List.

VIII. At the Public Ceremonial of Graduation in Arts, held annually in April, the Degree of MASTER is conferred by the Chancellor or the Vice-Chancellor of the University, in name of the Senatus Academicus. Degrees are not conferred on any who are not present at the Graduation Ceremonial, and who have not signed the *Sponsio*, although they may have passed all their examinations. Those who are presented to receive the degree must appear in Academical costume, and with the hood proper to the Degree.[1]

IX. Fees for Examination must be paid by Candidates in advance, when they intimate their names and addresses to the Clerk of the University. The Examination fee for the Degree of Master of Arts is *Three Guineas*. The fee for Examination of each of the three Departments mentioned in Article VI. is *One Guinea;* and no further fee than the sum of *Three Guineas* is payable by any Candidate for admission to the Degree in Arts, whether with or without Honours.[2]

GRADUATION IN ARTS WITH HONOURS.

I. Students who have passed the Examinations in the three Departments embraced in the Course of Study prescribed for the Degree of Master of Arts, may, before taking the Degree, offer themselves for a further examination, with a view to Graduation

[1] Black silk lined with *white*.

[2] Immediately after obtaining the Degree, Candidates should apply for their Diplomas at the Matriculation office. There is no additional charge for the Diploma. Any Graduate who cannot apply personally for his Diploma is required to give written authority to some person to receive and give a receipt for it.

with Honours; and that either in the same year in which they have completed the Pass or Ordinary Examinations, or in a future year. Also, any Student who desires to offer himself for Examination with a view to graduation with Honours, in any one or more departments, may proceed to such Honours Examination, after sufficient attendance on the classes in the department or departments in which he desires to offer himself, without having previously passed the Examination in such department or departments for the Degree of Master of Arts without Honours; and if such Student, in the opinion of the Examiners, fails to attain the standard for Honours in any department, but attains to the standard of the Examination for graduation without Honours, he shall be held to have passed in that Department for the Degree of Master of Arts, without Honours; but if, in any such department, he fails to attain to the standard of the Examination for graduation without Honours he shall not be entitled, until he shall have passed in that department, to the Degree of Master of Arts. And no person, without the permission of the Senatus Academicus, can be admitted to an Examination for *Honours*, after he has ceased, for more than one Winter Session, to be a Matriculated Student, in attendance on a class or classes in the University.

II. There are four departments for Graduation in Arts with Honours, in any one or more of which, subject to the preceding Regulation, Students may present themselves for further Examination, viz.:—

A. CLASSICAL LITERATURE, .	Latin. Greek.
B. PHILOSOPHY, . . .	Logic. Metaphysics. Moral Philosophy.
C. MATHEMATICS AND PHYSICS,	Pure Mathematics. Natural Philosophy.
D. NATURAL SCIENCE, . .	Geology. Zoology. Chemistry. Botany.

III. In each of the first three of the above-mentioned departments, viz., in Classical Literature, in Philosophy, and in Mathematics, there are *two* Grades of Honour, each representing, as nearly as possible, a uniform standard of qualification, and denominated respectively the FIRST CLASS and the SECOND CLASS. The names of candidates entitled to Honours, in each of these classes, are arranged in alphabetical order.

IV. In the department of Natural Science, there is only *one* class for Honours; and the names of candidates entitled to Honours in that class are arranged in alphabetical order.

V. The names of candidates to whom the Examiners award a First or Second Class in the Examination for Honours are retained in the UNIVERSITY CALENDAR, in the Class Lists, under the year in which the Honours were taken by them, and in the department or departments in which they were so classed.

ENTRANCE EXAMINATION FOR CURRICULUM OF THREE SESSIONS—SESSION 1891-92.

In terms of *Regulation* II. (see p. 105), Entrance Examinations will be held by the Faculty of Arts in the *Examination Hall* of the University, on *Saturday, the 17th of October* 1891, at *Nine* o'clock, at which time Students entering their *First* Session in the Faculty of Arts, who desire to be enabled to complete their Curriculum in Arts within Three Winter Sessions, must present themselves for examination. At these Examinations they will be asked to translate—

1. A simple passage from Livy or Cicero into English;
2. A passage of plain English into Latin;
3. An easy passage (or passages), prose or verse, *e.g.*, from Xenophon, Lucian, Homer, for translation into English;
4. A few easy sentences from English into Greek.

Some questions will be added in Greek Accidence and Elementary Syntax.

N.B.—Great stress will be laid on grammatical accuracy in the translation from English into Latin Prose.

The above Examination in Latin and Greek is the only one necessary for admission to a Three Sessions' Curriculum.

The Senior Local Examinations Certificates of Edinburgh, Glasgow, Aberdeen, St Andrews, Oxford, and Cambridge; Royal University of Ireland Pass with Honours; and the Honours and Higher Grade Schools Leaving Certificate of the Scotch Department, are accepted pro tanto *as qualifying for a Three Years' Curriculum.*

ENTRANCE EXAMINATION IN MATHEMATICS.

Students at the commencement of the *First* Session of their attendance at the University who desire, with a view to a Degree,

to attend the SECOND Mathematics Class, without attending the First, will be examined on *Monday, the 19th of October*, at *Nine* o'clock.

The subjects of Examination will be—Arithmetic; Euclid, Books i., ii., iii., iv., and vi., or their equivalent; Elementary Algebra and Trigonometry. In the examination in Geometry the questions will be set so as to allow freedom of teaching as far as possible. More stress will be put upon accurate knowledge of Geometrical principles, and ability to apply them in simple exercises, than upon the reproduction of demonstrations according to Euclid's or any other special text.

*** Specimens of the Entrance Examination Papers for 1890 in Latin, Greek, and Mathematics are given at page 140.

The following Examinations will exempt from one Session's attendance on the Class of Mathematics, viz.:

The Senior Local Examinations Certificates of Edinburgh, Glasgow, Aberdeen, St Andrews, Oxford, and Cambridge; the Junior Local Examinations of Oxford, and Cambridge, provided that in each case the Candidates have taken the whole Examination in Euclid, Algebra, and Trigonometry, and have not merely passed in the minimum standard; Royal University of Ireland Pass with Honours; the Intermediate Examination of the University of London; the Honours and Higher Grade Schools Leaving Certificate of the Scotch Department.

N.B.—*The names of those who have passed the Examination for the Three Sessions' Curriculum, or the Entrance Examination in Mathematics, or both, will be published in the* UNIVERSITY CALENDAR, *along with the names of the Schools from which they have come, provided that they have matriculated and enrolled in the Classes for Session* 1891-92.

Matriculated Students who have passed either or both of these Examinations, or the equivalent Examinations elsewhere, will obtain the necessary Certificates to that effect in November by applying to the Dean of the Faculty of Arts.

PASS EXAMINATIONS FOR MASTER OF ARTS.

PROGRAMME FOR OCTOBER 1891 AND APRIL 1892.

Pass Examinations for the Degree of Master of Arts will be held in the *Examination Hall* of the University in *October* 1891, on the four following days, viz., Tuesday the 13th, Wednesday the 14th, Thursday the 15th, and Friday the 16th. The Examinations will be conducted in the following order:—

First Day, Tuesday, 13th October.—Latin (9 to 11 and 11.30 to 1.30); Mathematics (2.30 to 4.30).

Second Day, Wednesday, 14th October.—Mathematics (9 to 11); Greek (11.30 to 1.30 and 2.30 to 4.30).

Third Day, Thursday, 15th October.—Logic and Psychology (9 to 12); Natural Philosophy (1 to 4).

Fourth Day, Friday, 16th October.—Moral Philosophy (9 to 12); Rhetoric and English Literature (1 to 4).

Pass Examinations for the Degree of Master of Arts will also take place in *April* 1892, on the four following days, viz., Monday the 4th, Tuesday the 5th, Wednesday the 6th, and Thursday the 7th. The Examinations will be conducted in the following order :—

First Day, Monday, 4th April.—Latin (9 to 11 and 11.30 to 1.30); Mathematics (3 to 5).

Second Day, Tuesday, 5th April.—Mathematics (9 to 11); Greek (11.30 to 1.30 and 2.30 to 4.30).

Third Day, Wednesday, 6th April.—Logic and Psychology (9 to 12); Natural Philosophy (1 to 4).

Fourth Day, Thursday, 7th April.—Moral Philosophy (9 to 12); Rhetoric and English Literature (1 to 4).

The subjects for the Pass Examinations in October 1891 and in April 1892, are as follows :—

A.—Department of Classical Literature.

Latin.

Horace, *Satires*, i., ii.; *Odes*, i., ii.
Virgil, *Æneid*, iv., v., vi., vii.
Cicero, *De Oratore*, i.
Tacitus, *Annals*, iv.
A passage from a Latin Author not prescribed.
Latin prose composition.
Roman History.—A general knowledge of the history of the Republic, and a special knowledge of the period from B.C. 60 to A.D. 37.
Roman Literature.—A general knowledge of the course of Roman Literature till the end of the Augustan age, and a more special knowledge of the Lives and Works of Virgil, Horace, Cicero, and Tacitus.
Translation from English into Latin prose is required of every Candidate.

Greek.

Homer, *Iliad*, xx.
Sophocles, *Œdipus Tyrannus.*
Demosthenes, *Leptines.*
Plato, *Republic*, books i., ii.
A passage from a Greek Author not prescribed.
Greek prose composition.
Greek History.—A general knowledge of Greek History to the death of Alexander, and a special knowledge of the period embraced by the Persian Wars.
Greek Literature.—A general knowledge of the course of Greek Literature, and a special knowledge of the prescribed Authors.
Laws of Hexameter and Iambic verse.

B.—Department of Philosophy.

Logic and Psychology.

The elementary doctrines of Logic and Psychology.
Davidson's *Logic of Definition*, chapters i., ii., iii., and vi., vii., viii., ix.
"*Locke*," in "Philosophical Classics" (Blackwood); "*Selections from Berkeley*" (fourth edition),—"Editor's Introduction," (pp. ix. to liii.); "Principles of Human Knowledge" (Part I. sect. 1-84, pp. 37-101); "Divine Visual Language: A Dialogue," pp. 249-296; Extracts from *Siris*, pp. 339-394; Prefatory Notes (pp. 3-7; 159-166; 333-337), and the footnotes.

Moral Philosophy.

The Class Lectures — "Handbook of Moral Philosophy;" Butler's Sermons, i., ii., iii., xi.; Sidgwick's "Outlines of the History of Ethics," Chapters ii. and iv.

Rhetoric and English Literature.

The Principles of English Composition and Style: Class Lectures.
History of the English Language: The First Five Chapters of Morris's "Historical Outlines of English Accidence."
History of English Literature, more particularly from 1350 to 1688: Lectures, with Morley's Text Book, and the portions of Hallam's "Literature of Europe" that relate to English writers of the time mentioned.
Special Readings required:—
Shakespeare's *Love's Labour's Lost* and *Coriolanus.*

Books i. and ii. of *Paradise Lost*.
De Quincey's Essay entitled "*Rhetoric*," and Mr Leslie Stephen's *Swift* in the English Men of Letters Series.
Wordsworth's *Prose Prefaces, &c., to his Poems*.

C.—Department of Mathematics and Physics.

Mathematics.

Arithmetic.
Euclid, Books i., ii., iii., iv., vi., and xi., or their equivalent, with their application to Mensuration.
Algebra, Trigonometry, Conic Sections, Geometrical and Analytical.

Candidates must show sufficient knowledge in each of the subjects of examination.

Natural Philosophy.

Elementary Dynamics.
Astronomy and Experimental Physics.

Candidates must show sufficient knowledge both of Dynamics and of Experimental Physics.

The names and addresses of Candidates for the Degree of Master of Arts, or for Certificates in any of the three departments, who intend to present themselves for examination in October 1891, must be given in at the *Matriculation Office* not later than the 5th of October; and for the Examinations in April 1892, not later than the 18th of March. The Graduation Fee (if not previously paid) must be paid when the Candidate announces his name.[1] Candidates must at the same time state the Department or Departments (if any) which they have already passed.

In making this announcement in *October*, Candidates must present, at the *Matriculation Office*, their Matriculation Cards, with the relative Class Certificates, and Certificates for a Three Sessions' Curriculum, required in the Department or Departments for which they enter their names. For the Examinations in *April* 1892, the Matriculation Cards and Certificates must be shown *on or before Saturday, the 2nd of April.* When the Candidate has exhibited all his Matriculation Tickets and Certificates, the Clerk will stamp on his Receipt, "Certificates

[1] When names are not entered nor fees paid on or before the stated dates, an additional or late entry fee of ten shillings must be paid before the Candidate can be admitted to examination. A Candidate is not held to be entered for the Examination until his Name is entered, the Fee paid, and all the necessary Certificates, &c., lodged.

examined," which will entitle him to admission to the examination, on producing his Receipt at the Examination Hall.

Candidates who have, in a former year, passed all the examinations necessary for Graduation, but without having taken the Degree, and who desire to present themselves for Graduation in April 1892, must, *at least ten days previously*, enter their names and addresses, and show their Departmental Certificates, at the *Matriculation Office.*

Candidates who have passed all the Departments for the Degree of M.A., but who do not desire to graduate in April, may have their names printed in the Pass Lists,—provided they enter their names and exhibit their Departmental Certificates at the *Matriculation Office* at least one clear day before the date of Graduation ; and in like manner, those who complete their Examinations in October may have their names inserted in the printed Pass Lists in October,—provided they enter their names and show their three Departmental Certificates within one day after the announcement of the results of the Examinations has been posted on the Boards at the University.

Candidates for Examination in any Department, or for Graduation, must be Matriculated Students of the year in which they appear for Examination or for Graduation.

Every Candidate for Graduation is required to exhibit his Departmental Certificates, and to pay the Fee of £1 for Registration as a Member of the General Council, before he can be presented for Graduation, which should be done at least one clear day before the date of Graduation.

The fees for Matriculation, for Examinations for Degrees, and for Registration of Graduates as Members of the General Council, are payable at the Matriculation Office, University. When Candidates cannot attend personally to pay the fees, they should transmit them to the *Clerk of the University*, by crossed *Post Office* or *Postal Orders*, or by *Bank Drafts only*, and not by cheques on private accounts.

EXAMINATIONS FOR GRADUATION IN ARTS WITH HONOURS.

(*Examinations for Honours are held in April only.*)

PROGRAMME FOR APRIL 1892.

The Examinations for Honours will begin on Friday, 8th April 1892.

The Examinations will be conducted in the following order :—

Classical Literature.	Latin, 8 April, 9 to 12, and 1 to 4; 9 April, 9 to 12. Greek, 9 April, 1 to 4; 11 April, 9 to 12, and 1 to 4.
Philosophy.	Logic and Metaphysics, 8 April, 9 to 12, and 1 to 4; 9 April, 9 to 12. Moral Philosophy, 9 April, 1 to 4; 11 April, 9 to 12, and 1 to 4.
Mathematics and Physics.	Mathematics, 8 April, 9 to 12, and 1 to 4. Natural Philosophy, 9 April, 9 to 12, and 1 to 4.
Natural Science.	20 and 21 July 1891, and 21 and 22 March 1892.

The subjects of Examination are as follows :—

A.—Department of Classical Literature.

Latin.

Plautus, *Pseudolus*, *Rudens*.
Terence, *Phormio*.
Horace,
Juvenal, with omission of ii., vi., ix.
Martial, Selections for the Use of the Humanity Classes, i., ii., ix.-xii.
Cicero, *Epistolæ ad Q. Fratrem ; ad Atticum*, i.-iv., and vii., viii.
Tacitus, *Annals*, xi.-xvi.
Latin prose composition, and translation from Authors not prescribed.
Roman History.—First century B.C. and first century A.D. A general knowledge of the previous history will be expected.
Roman Literature.—A general knowledge of the course of Roman Literature, and a more minute knowledge of the Authors prescribed.

Greek.

Homer, *Odyssey*, i.-xii.
Sophocles, *Œdipus Col.* and *Antigone*.
Theocritus.
Thucydides, Books vii., viii.
Plato, *Phaedrus* (Thompson's Edition).
Aristotle, *Poetics*, omitting ch. 20 and 25 (Vahlen's text).
Greek Prose Composition.
Translation from Authors not prescribed.
Greek History.—A general knowledge of Greek History to the death of Alexander, and a minute knowledge of the period embraced by the Peloponnesian War.
Greek Literature.—A general knowledge of the course of Greek Literature, with a more minute knowledge of the Authors prescribed.

Greek Grammar.—As a special subject *Monro's* Homeric Grammar. The principles of Comparative Philology as applied to Latin and Greek. Text-book recommended, "Sounds and Inflexions in Greek and Latin," by King and Cookson.

B.—Department of Philosophy.

Logic and Metaphysics.

Exercises in Hamiltonian as well as in the ordinary logical forms.
A competent knowledge of the History of Philosophy.
Plato, *Theætetus.*
Aristotle, *Metaphysics*, Book i.
Descartes, *Meditations.*
Locke, *Essay on Human Understanding*, in connection with "*Locke*" in "Philosophical Classics" (Blackwood).
Berkeley, in "Philosophical Classics" (Blackwood); also "*Selections from Berkeley*" (fourth edition).
Hume, *Inquiry concerning Human Understanding.*
Kant, *Critique of Pure Reason.*
Hegel, in "Philosophical Classics" (Blackwood), and Professor Seth's *Hegelianism* and *Personality.*

Moral Philosophy.

The Class Lectures for Advanced Students.
Plato's *Protagoras.*
Plato, *Republic*, i.-vii.
Aristotle, *Ethics* (omitting v., vi., vii.)
Spinoza, *Ethics.*
Hegel's *Philosophy of the State* (Grigg's German Philosophical Classics).
Reid's *Active Powers*, Essays ii., iv., v.
Kant, *Metaphysic of Ethics.*
Sidgwick's *Methods of Ethics* (fourth edition).
Green's *Prolegomena of Ethics.*

C.—Department of Mathematics and Physics.

Pure Geometry, Algebra, Theory of Equations, including Determinants, Trigonometry (Plane and Spherical), Analytical Geometry, Differential and Integral Calculus, Calculus of Finite Differences. (The Candidate may, if he please, profess the Elements of Quaternion Analysis.)

Experimental Physics; Analytical Dynamics and Thermodynamics; *imperative.*

In addition, two or more branches of Elementary Mathematical Physics (such as Geometrical or Physical Optics, Statical or Voltaic Electricity, Capillarity, &c.). These may be selected by the Candidate.

D.—Department of Natural Science.

GEOLOGY.
ZOOLOGY.
CHEMISTRY.
BOTANY.

The Candidate may select any Two of the above Subjects, in which he will be subjected to examinations equivalent to those in the same subjects for the *Second* B.Sc. in Physical and Natural Science.

Candidates who propose to present themselves at the Examination for Honours in April 1892, in Sections A, B, and C, must enter their names and addresses at the *Matriculation Office*, not later than the 18th of March—specifying the Department or Departments for which they offer themselves, and Candidates for Honours in Section D, in July 1891, and in March 1892, are required to enter their names, and specify the subjects in which they offer themselves, on or before 13th July 1891, and 14th March 1892 respectively. They must be Matriculated Students of the year in which they present themselves for Examination or for Graduation, and must pay the Fee of £1 for Registration, as explained above.

No one who has ceased for more than one Winter Session to be a Matriculated Student in attendance on a class or classes in the University can be admitted to an Examination for *Honours* without permission of the Senatus Academicus.

SPONSIO ACADEMICA TO BE SIGNED BY GRADUATES IN ARTS.

Nos qui Nomina subsignamus Magisterii titulo jamjam donandi Spondemus nos in omni debitae gratitudinis officio erga Universitatem Academicam Edinburgensem ad extremum vitae halitum perseveraturos.

GRADUATES IN ARTS.

HONOUR LISTS—1887-1891.

The names of all Graduates in Arts with Honours previously to 1889 will be found in the List of Graduates of the University published in 1889.

The contractions Class., Phil., Math., and Nat. Sc., indicate the Departments of Classics, Philosophy, Mathematics, and Natural Science, respectively; and the Italic Numerals, i. and ii., indicate First and Second Class Honours respectively.

1887.

Class. i., John D. Rose.

Phil. i., John Davidson, Thomas E. Sandeman, Patrick C. Simpson, William B. Tough.

Math. i., James Crocket, Charles E. Grange, John King, David A. Welsh.

Math. ii., George Laurie, Alex. Moffat.

Nat. Sc., Charles E. Grange.

1888.

Class. i., Jas. Gilchrist Goold, Geo. Smith, Alexander Douglas Thomson.

Class. ii., George Millie Gibb, Archibald Paterson.

Phil. i., William Ingram.

Phil. ii., Wm. Wallace Duncan Campbell, John Dow Fisher Gilchrist, George Currie Martin.

Math. i., Alex. Wilmer Duff, Jas. Goodwillie, David Beveridge Mair.

Nat. Sc., Charles Hogg, Robert Murray Leslie, David Rankine, William Lyall Wilson, Thomas Winter.

1889.

Class. i., Patrick Duncan, Harry Angus Alexander Kennedy, Thomas Ross Mills, Jas. Cruickshank Smith, John Tennant.

Class. ii., Robert Alex. Falconer, Alexander Harris Hutt.

Phil. i., Charles Mackinnon Douglas, William George Smith.

Phil. ii., David Walton Vaughan.

Math. i., James Ireland Craig, William Andrew Knowles, Jas. Fairbairn M'Kean.

Nat. Sc., Alexander Bremner, John Brown Clark, David Davidson, John Melvin Lowson, Robert Stewart M'Dougall, John Machray, John Hally Meikle, Harry Fisher Menzies, Alexander Gordon Wallace, John Young.

1890.

Class. i., John Maclennan, James Watt.

Class. ii., William Brereton Dennison, William Barron Stevenson.

Phil. i., Andrew Nisbet Bogle, Duncan Mackenzie, Thomas Dixon Rutherford, James Stewart.

Phil. ii., Henry Reynolds Brown, William Elmslie Wilkie Brown Dempster, Arthur Herbert Gray, Walter Hardie.

Math. i., Charles Tweedie.

Nat. Sc., James Adamson, William Lewis Martin, John Myles Andrew Robertson Wilson.

1891.

Class. ii., John Adam Norrie, William Gibson Wedderspoon.
Phil. i., Henry Barker, Walter Charles Murray.
Phil. ii., Alexander Grieve, Wm. Allan Neilson, Alexander Joseph Pearse.
Math. i., John Forbes, Adam Mitchell Hunter, William Edward Philip, William Leslie Thomson, John Turner.
Nat. Sc., Robert Pollok, James Rodger Watson.

In addition to the above, one Candidate passed the Examinations for First Class Honours in Philosophy in April 1891, and one passed the Examinations for Second Class Honours in Classics.

DEGREE OF MASTER OF ARTS (ORDINARY EXAMINATION).

1st August 1890.
Henry Scott Ker Edie.

13th October.
Duncan Macdonald Carmichael.

29th November.
Thomas Miller Henry.

28th February 1891.
Hugh Gordon.

17th April.

Alexander Fowler Annand.
David Arnot.
Bertram Claude Barnard.
John Black.
John Bowie.
Charles James Lawrence Boyd.
George Maitland Bucher.
John Burr.
Alexander John Campbell.
John Davidson.
Archibald Colquhoun Dawson.
James Hay Deas.
Thomas Milne Dey.
John Henry Dickie.
Alexander Dickson.
John Erskine Dods.
Donald Fergusson.
James Fleming.
Alexander Cecil Forsyth.
David Denholm Fraser.
David Adamson Fullerton.
William Fulton.
James Gall.
William Graham Crichton Geekie.
Cecil Robert Gillies-Smith.
Charles Cockburn Goodlet.
David Campbell Hardie.
John George Barron Henderson.
Charles Scott Hendry.
James Hood.
John Walter Horne.
John Thomas Craig Ireland.
Thomas King.
Henry Maclaurin Lamont.
James Livingston Linton.
Grant Forester Lundie.
William Dunbar Macdougall.
Alexander Nelson Macfarlane.
Donald M'Gregor.

Malcolm MacInnes.
Alexander Mackay.
James Ebenezer Mackay.
Naughton Macnaughton.
Angus Duncan MacPherson.
John M'William.
William George Manson.
Alexander James Marshall.
Thomas Marjoribanks.
David Maxwell.
Alexander Russell Menzies.
Donald Menzies.
James Duncan Millar.
David Kinloch Miller.
George Mitchell.
George Morton.
Malcolm Nicolson Munro.
Harold Nuttall.
David Low Phease.
James Richardson.
Henry Robb.
John Arthur Thomas Robertson.
David Russell Scott.
David Caldwell Stewart.
George Webster Ferguson Strain.
Alexander Guthrie Tait.
James Miller Thomson.
David Milne Watson.
Thomas Redpath Watson.
John Aitken Welsh.
James Kissock Wilkin.
James Wilson.
Matthew Wilson.
Robert Wilson.
Marcus Calder Wood.
John Yorston.

In addition to the above, nine Candidates passed the Ordinary Examinations in the three Departments, but without at present taking the Degree.

At the Examinations in October 1890, fifteen Candidates passed in the Department of Classical Literature, six in the Department of Mental Philosophy, and twenty-three in the Department of Mathematics.

At the Examinations in April 1891, ninety-eight Candidates passed in the Department of Classical Literature, one hundred and eighteen in the Department of Philosophy, and fifty-four in the Department of Mathematics.

REGULATIONS FOR SCHOOLMASTER'S DIPLOMA.

1. The Diploma is conferred only on Graduates in Arts of the University of Edinburgh.

2. Each Candidate must have matriculated in the University for the year in which he presents himself for the Diploma.

3. Each Candidate must have attended the Class of the Theory, Art, and History of Education in the University.

4. Each Candidate must pass an Examination in the Theory, Art, and History of Education, to be conducted by the Professor of that subject, and an Examiner appointed by the University Court.

5. The subjects of Examination are announced annually in the *University Calendar*.

6. Each Candidate must give evidence either :—

(*a.*) That he has attended a Course of Practical Instruction in a Training College for Teachers ; *or*

(*b.*) That he possesses the Government qualification in the practice of teaching required of Graduates, and provided in the "Scottish Code"; *or*

(*c.*) That he has taught publicly for at least one year in a School; and holds such a certificate of practical skill from the Head Master of that School as may be considered satisfactory by the University.

7. Each Candidate must satisfy the University of his practical aptitude as a Teacher in some special Subject or Subjects in which he has received instruction in the University, or in any Institution recognised by the University as qualifying for Degrees.

8. Each successful Candidate will receive a Diploma signed by the Vice-Chancellor of the University, or, in his absence, by the Principal or the Senior Professor. The Diploma, which will be delivered at a public meeting for conferring Degrees, states the special subject or subjects in the teaching of which the Candidate has satisfied the University of his practical aptitude.

9. This Diploma is of two grades: one for Masters of Arts with Honours in any Department, specially qualifying them for Secondary Schoolmasterships; the other for those who have taken the ordinary Degree of M.A.

10. The Fee for the Diploma is £2, 2s.

The next Examination will take place on Saturday, 26th March 1892, at 10 o'clock, and Candidates are required to enter their names and pay the fee at the *Matriculation Office* on or before 18th March.

The subjects are:—The Lectures of the Professor of Education (Theory, History, and Art); Locke's "Thoughts on Education" (Moral Training); also, Locke "On the Conduct of the Human Understanding;" "Language and Linguistic method in the School," by Professor Laurie; Milton's "Tractate on Education;" Comenius's "Great Didactic;" and the accounts of Pestalozzi and Fröbel in Quick's Educational Biographies.

A short thesis will be prescribed to be written in the Examination Room on a subject treated in one or other of the above books.

The Diploma has been conferred on the following Candidates:—

A.—General Diploma and Diploma for Secondary Schools.

1887—John Edward Vernon, M.A.
1890—Robert Stewart M'Dougall.
1891—Wm. Brereton Dennison, M.A.; Wm. Allan Neilson, M.A.

B.—General Diploma.

1887—Hugh Wilkie, M.A.
1888—D. Bogie, M.A.; J. S. Lawson, M.A.; C. H. Owen, M.A.
1889—Donald Brims, M.A.; Charles Smith, M.A.
1891—E.W. Hobbs, M.A.; D. M'Gregor, M.A.; E. Mitchell, M.A.

REGULATIONS FOR CERTIFICATE OF "LITERATE IN ARTS." (L.A.)

The following are the Regulations for this Certificate :—

1. The Certificate is open to persons who have been students in the Faculty of Arts for not less than Two Sessions ; and who have during that time given attendance on not less than five classes in the said Faculty, so as to include four at least of the seven subjects necessary for Graduation in Arts. Of these Sessions at least one, and of the necessary classes at least two, must have been in the University of Edinburgh.

2. The examinations for the Certificate, in the four (or five) subjects which are also necessary for the degree of Master of Arts, is the ordinary graduation examinations in Arts in such subjects ; and the examination in any subject not in the course of study necessary for the degree of Master of Arts is of a standard equivalent to that of the ordinary graduation examinations in Arts.

3. The examinations for the Certificate may be taken either at one or at two periods, at the option of the Candidate. When divided, the First examination must embrace at least two out of the five necessary subjects ; the Second examination must embrace the remaining subjects.

4. The fee for the Certificate of Literate in Arts is two guineas. When the five necessary subjects are all taken at one examination, in April or in October, the fee is £2, 2s. ; and when the examination is divided the fee is £1, 1s., on each of the two occasions.

The names and addresses of Candidates for the title of LITERATE IN ARTS who desire to be examined in *October* 1891 must be entered at the *Matriculation Office*, not later than the 5th of October ; and of those who desire to be examined in *April* 1892 not later than the 18th of March, when the Fee must be paid. They must shew the necessary Matriculation Cards and Class Certificates at the *Matriculation Office*, on or before the 5th of October, for the October Examinations, and on or before the 2nd of April, for those in April. In entering their names, Candidates are required to mention the subjects on which they desire to be examined, and the subjects (if any) in which they have already passed, with the date of passing. When the Candidate has exhibited all his Matriculation Tickets and Certificates, the Clerk will stamp on his Receipt, "Certificates examined," which will entitle him to admission to the examination, on producing his Receipt at the Examination Hall.

The October and April Examinations for the certificate of L.A. will be held on the days and at the hours fixed for the ordinary examinations for the degree of Master of Arts and by means of the same examination papers, in all the subjects for the title of L.A. that are also necessary for the degree of M.A.

The next Examination on Education will take place on Saturday, 26th March 1892, at 10 o'clock.

Those candidates who select the "Theory, History, and Art of Education" as one of their five subjects, will be examined on the Professor's Lectures, Comenius's Great Didactic, Milton's Tractate, and Locke's "Conduct of the Understanding."

Arts Entrance Examinations.

The following have passed the Entrance Examination necessary for the Three Sessions Curriculum in Arts, October 1890:—

The following have passed both in Latin and in Greek:—

Eric M. Beilby, George Watson's College; T. Lorimer Beveridge, Ayr Academy; Duncan M. Burden, Dundee High School; A. G. Burgess, George Watson's College; John F. Cameron, Perth Academy; G. Scott Dalgleish, George Watson's College; J. W. Duffus, George Watson's College; Campbell Dykes, University College School, London; Allan Grant Gilbert, Daniel Stewart's College; George Hart, Ayr Academy; Wm. F. Harvey, Dollar Institution; J. Hossell Henderson, George Watson's College; Walter R. Henderson, George Watson's College; John Alex. Johnston, Private Tuition; George D. Low, George Watson's College; Hugh M'Calman, George Watson's College; Alex. B. Macdonald, Ayr Academy; Wm. W. M'Kechnie, Daniel Stewart's College; Chas. A. Macpherson, George Watson's College; James Paterson, George Watson's College; Thomas Pullar, Perth Academy; Stuart Robertson, Daniel Stewart's College; Drummond S. Ross, Dollar Institution; J. Keith Ross, High School, Edinburgh; Andrew Smith, Wallace Hall Academy, Dumfries; Thomas Smith, Ayr Academy; Andrew Tweedie, George Watson's College.

The following have passed in Latin only:—

J. C. Coldstream, Edinburgh Academy; James H. Hargreaves, Moray House Training College; John Macaskill, Raining's School, Inverness; John M. Macdonald, Milne's Institution, Fochabers.

The following passed in Greek only:—

John Gifford, Daniel Stewart's College.

The following have passed in Mathematics:—

A. E. Adams, High School, Stirling; Eric M. Beilby, George Watson's College; T. L. Beveridge, Ayr Academy; D. M. Burden, High School, Dundee; A. G. Burgess, George Watson's College; W. Burt, High School, Dunfermline; J. F. Cameron, Perth Academy; J. A. Craig, Daniel Stewart's College; G. Scott Dalgleish, George Watson's College; E. W. Franks, Sir William Turner's Grammar School, Redcar; E. F. Gibson, Edinburgh Institution; John Gifford, Daniel

Stewart's College; George Hart, Ayr Academy; W. F. Harvey, Dollar Institution; J. H. Henderson, George Watson's College; W. R. Henderson, George Watson's College; J. A. Johnston, Private Tuition; J. S. Ker; Hugh M'Calman, George Watson's College; A. B. Macdonald, Ayr Academy; J. M. Macdonald, Milne's Institution, Fochabers; W. W. M'Kechnie, Daniel Stewart's College; J. B. MacOwan, High School. Stirling; C. A. Macpherson, George Watson's College; David Mekie, Daniel Stewart's College; Jas. Paterson, George Watson's College; Thomas Pullar, Perth Academy; W. G. Rennie; Stuart Robertson, Daniel Stewart's College; Drummond S. Ross, Dollar Institution; Harry M. Ross, Royal Academy, Inverness; J. K. Ross, High School, Edinburgh; Andrew Smith, Wallace Hall Academy; Thomas Smith, Ayr Academy; Henry Spence, Westminster College; Andrew Tweedie, George Watson's College; G. F. Whyte, George Watson's College

---

Competitive Examinations for Bursaries in Arts.

HONOUR LIST.

October 1890.

The following Candidates, entitled to distinction, are arranged in the order of merit:—

I.—Students entering First Session.

(*Subjects of Examination*—Latin, Greek, Mathematics, and English.)

1. William Wallace M'Kechnie, Daniel Stewart's College.
2. Alexander B. Macdonald, Ayr Academy. } Equal.
3. Walter R. Henderson, George Watson's College. } Equal.
4. John Alexander Johnston, Private Tuition.
5. Hugh M'Calman, Geo. Watson's Coll.
6. J. Hossell Henderson, Geo. Watson's College.
7. George Hart, Ayr Academy.
8. G. Scott Dalgleish, George Watson's College.
9. Charles Angus Macpherson, George Watson's College.
10. Eric M. Beilby, Geo. Watson's Coll.
11. Andrew Tweedie, George Watson's College. } Equal.
12. James Paterson, George Watson's College. } Equal.
13. A. G. Burgess, Geo. Watson's College.
14. Thomas Pullar, Perth Academy.
15. J. Keith Ross, High School, Edin.
16. Stuart Robertson, Daniel Stewart's College.
17. Drummond S. Ross, Dollar Institution.
18. Thomas Smith, Ayr Academy.
19. William F. Harvey, Dollar Institution.
20. Allan Grant Gilbert, Daniel Stewart's College.
21. J. W. Duffus, George Watson's College.
22. John Gifford, Daniel Stewart's College.
23. Campbell Dykes, University College Sch., London } Equal.
24. T. Lorimer Beveridge, Ayr Academy. } Equal.
25. David Mekie, Daniel Stewart's Coll.
26. James M. Macdonald, Milne's Institution, Fochabers.
27. James Bayne MacOwan, High School, Stirling.
28. Edward F. Gibson, Edinburgh Institution.
29. George D. Low, George Watson's College.
30. James H. Hargreaves, Moray House Training College, Edinburgh.

John Welsh (Thomas Carlyle) Classical Bursaries.

(*Subjects of Examination*—Latin, Greek, and English.)

1. Walter R. Henderson, George Watson's College.
2. William Wallace M'Kechnie, Daniel Stewart's College.
3. Alexander B. Macdonald, Ayr Academy.
4. Hugh M'Calman, George Watson's College.
5. George Hart, Ayr Academy.
6. John A. Johnston, Private Tuition.
7. Charles A. Macpherson, George Watson's College.
8. Eric M. Beilby, George Watson's College.
9. James Paterson, Geo. Watson's Coll.
10. Andrew Tweedie, George Watson's College.
11. Thomas Pullar, Perth Academy.
12. J. Hossell Henderson, George Watson's College.
13. Stuart Robertson, Daniel Stewart's College.
14. J. W. Duffus, George Watson's College.
15. Allan Grant Gilbert, Daniel Stewart's College.
16. Drummond S. Ross, Dollar Institution.
17. J. Keith Ross, High School, Edinburgh. } Equal.
18. Campbell Dykes, University College School, London. } Equal.
19. Thomas Smith, Ayr Academy.
20. Guy Scott Dalgleish, George Watson's College.
21. T. Lorimer Beveridge, Ayr Academy.
22. A. G. Burgess, George Watson's College.

John Welsh (Thomas Carlyle) Mathematical Bursaries.

(*Subject*—Mathematics, especially Pure Geometry.)

1. John Alexander Johnston, Private Tuition.
2. Guy Scott Dalgleish, George Watson's Coll. } Equal.
3. J. Hossell Henderson, George Watson's Coll. } Equal.
4. William Wallace M'Kechnie, Daniel Stewart's College.
5. A. G. Burgess, George Watson's College.
6. Alexander B. Macdonald, Ayr Academy.

George Heriot Bursaries.

(*Subjects*—1. Latin; 2. Elementary Mathematics; 3. English, and any two of the following:—4. Greek; 5. French and German; or 6. Higher Mathematics.

1. John Alexander Johnston, Private Tuition.
2. Alexander B. Macdonald, Ayr Academy.
3. Hugh M'Calman, George Watson's College.
4. Andrew Tweedie, George Watson's College.
5. Allan Grant Gilbert, Daniel Stewart's College.
6. Thomas Smith, Ayr Academy.
7. James A. Craig, Daniel Stewart's College.
8. John Gifford, Daniel Stewart's College.
9. J. B. MacOwan, High School, Stirling.

II.—Students entering Second Session.

(*Subjects*—Latin, Greek, and Mathematics.)

George L. Moffat, R. M. Samson, Alexander F. Lay.

III.—Students entering Third Session.

(*Subjects*—Classics, Mathematics, and Logic, with Pyschology.

Neil Macmichael, Robert Lees, J. A. F. Robertson.

Class Prize Lists.

FACULTY OF ARTS.

WINTER SESSION, 1890-91.

I.—HUMANITY.

SENIOR CLASS.

PRIZES AND FIRST-CLASS CERTIFICATES.—1. W. W. M'Kechnie, Edinburgh (*Second Prose*); 2. J. M. Moore, Lauder (*History*); 3. Edwin Rogerson, Banff (*First Prose*)—(*Medallists*); 4. W. R. Henderson, Edinburgh; 5. J. A. Johnston, Edinburgh; 6. James Adamson, Forfar; 7. Alexander Bain, Lauder, and A. B. MacDonald, Cumnock—equal.

SECOND-CLASS CERTIFICATES.—9. J. F. Cameron, Perthshire; 10. P. S. Black, Edinburgh; 11. J. L. Maclean-Watt, Dalkeith; 12. J. B. Baillie, Haddington; 13. Chas. A. Macpherson, Edinburgh; 14. A. M'Callum, Edinburgh; 15. J. R. Maxwell, Inverkeilor; 16. George Hart, Ayr; 17. John Henderson, Kelso; 18. Thos. Pullar, Perth; 19. Andrew Smith, Dumfries; 20. A. Edward, Dundee; 21. A. J. D. Smith, Durham; 22. A. M'Lennan, Ross-shire, and John M. Robertson, Bathgate—equal; 24. Hugh M'Calman, Edinburgh; 25. Alex. Gray, Lauder; 26. J. R. Murdoch, Edinburgh; 27. W. P. Simpson, Penicuik; 28. Jas. Wood, Haddington; 29. J. Drever, Orkney, and W. M'Kenzie, Burntisland—equal; 31. A. S. Riach, Edinburgh; 32. W. Robb, Addiewell; 33. J. W. Duffus, Edinburgh, and A. Duncan Smith, Dundee—equal.

PRIZES FOR LATIN PROSE COMPOSITION.—1. Edwin Rogerson, Banff; 2. W. W. M'Kechnie, Edinburgh; 3. A. B. Macdonald, Cumnock; 4. J. A. Johnston, Edinburgh. *Honourable Mention.*—5. J. M. Moore, Lauder; 6. A. Bain, Lauder, and Stuart Robertson, Edinburgh—equal.

PRIZE FOR ROMAN HISTORY AND LITERATURE.—1. J. M. Moore, Lauder. *Honourable Mention.*—2. J. A. Johnston, Edinburgh; 3. W. R. Henderson, Edinburgh; 4. W. W. M'Kechnie, Edinburgh; 5. Edwin Rogerson, Banff; 6. Alex. Edward, Dundee; 7. Jas. Adamson, Forfar; 8. A. Bain, Lauder.

JUNIOR CLASS.

PRIZES AND FIRST-CLASS CERTIFICATES OF MERIT.—1. James A. MacDonald, Leith; 2. Farquhar Macrae, Ross-shire; 3. George D. Low, Edinburgh (*Medallists*); 4. William Mackenzie, Cromarty; 5. James B. Russell, Greenock; 6. James Forsyth, Falkland; 7. James W. Lowthian, North Shields, and Duncan M. Burden,

Dundee—equal; 9. James S. M'Inroy, Dundee; 10. James F. Ross, Montrose; 11. David Connel, Burntisland; 12. Drummond S. Ross, Ross-shire; 13. David Mekie, Edinburgh; 14. Samuel Gray, Edinburgh, and Charles Menmuir, Arbroath—equal; 16. James Wallace, Davidson's Mains.

SECOND-CLASS CERTIFICATES OF MERIT.—17. George A. Russell, Dundee; 18. Edward P. Gibson, Edinburgh; 19. Ernest W. Franks, Yorkshire, and James Craig, Cramond—equal; 21. John Rose, Nairn; 22. J. H. Hargreaves, Edinburgh, and Robert S. Hill, Millfield—equal; 24. Joseph Chalmers, Edinburgh, and James B. M'Owan, Dunblane—equal; 26. John M. Nisbet, Edinburgh, and Thomas Scott, Perth—equal; 28. John M. Macdonald, Edinburgh; 29. John Hourston, Orkney, and James B. Penman, Stranraer—equal; 31. George C. Stuart, Edinburgh; 32. Alexander M. Mackay, Edinburgh; 33. James Bryce, Kincardine-on-Forth, and Andrew Mutch, Tillicoultry—equal; 35. George Murray, Wick; 36. Thomas Myles, Edinburgh; 37. George H. Menzies, Inverkeithing; 38. John Brown, Peebles; George P. Walker, Edinburgh; and Alexander Chisholm, Edinburgh—equal; 41. Alexander Cameron, Edinburgh; 42. James A. Craig, Edinburgh, and Harry M'D. Ross, Inverness—equal; 44. William Burt, Dunfermline; 45. Frederick G. Watson, Dumfries; 46. Samuel Milligan, Dumfriesshire; 47. J. M. Pryde, Tayport; 48. Robert Mackenzie, Sutherland; 49. Donald U. Crerar, Edinburgh, and James W. Noble, Edinburgh—equal; 51. James G. Drysdale, Morpeth, and John H. Melville, Fife—equal.

PRIZES FOR LATIN PROSE COMPOSITION.—1. George D. Low, Edinburgh; 2. James A. MacDonald, Leith, and Farquhar Macrae, Ross-shire—equal. *Honourable Mention.*—4. Drummond S. Ross, Ross-shire; 5. Duncan M. Burden, Dundee, and J. M. Macdonald, Edinburgh—equal; 7. James Forsyth, Falkland.

PRIZE FOR ROMAN LITERATURE AND HISTORY.—1. James F. Ross, Montrose. *Honourable Mention.*—2. James A. MacDonald, Leith, and James B. Penman, Stranraer—equal; 4. William Mackenzie, Cromarty; 5. James S. M'Inroy, Dundee.

JOHN BURNET, M.A.

II.—GREEK.

THIRD CLASS.

PRIZES.—1. R. P. Davidson, Wigtownshire (*Medallist*); 2. R. G. M'Kerron, Kelso; 3. Hugh R. Mackintosh, Ross-shire.

CERTIFICATES OF MERIT.—4. Thomas M'Vey, and W. G. Wedderspoon, Edinburgh—equal; 6. R. M. Samson, Cumnock; 7. James Mackenna, Dumfries.

COMPOSITION PRIZES.—R. G. M'Kerron and Thomas M'Vey—equal.

SENIOR CLASS.

PRIZES.—1. W. W. M'Kechnie, Edinburgh; 2. A. B. Macdonald, Old Cumnock, and Walter R. Henderson, Edinburgh (*Medallists*)—equal; 4. John A. Johnston, Aldershot; 5. Hugh M'Calman, Edinburgh; 6. Alexander Bain, Lauder; 7. Thomas Pullar, Perthshire; 8. James Adamson, Dundee; 9. Edwin Rogerson, Banff; 10. C. W. J. Wardrop, West Calder.

SECOND CLASS CERTIFICATES OF MERIT.—11. Charles A. Macpherson, Edinburgh; 12. J. F. Cameron, Stanley, Perthshire; 13. Alexander Maclennan, Fortrose, Ross-shire; 14. Andrew Smith, Dumfries; 15. James B. Baillie, Haddington, and John Henderson, Morebattle, Roxburghshire—equal; 17. P. S. Black, Edinburgh; 18. W. P. Lindsay, Lanarkshire; 19. J. R. Murdoch, Edinburgh; 20. Alexander Gray, Lauder; Alf. J. D. Smith, Durham; and J. L. M. Watt, Dalkeith—equal; 23. James Paterson, Edinburgh, and Wm. Robb, Addiwell—equal; 25. J. R. Maxwell, Inverkeilor; 26. James Wood, Haddington; 27. Alex. Innes, Dumfries, and Andrew Tweedie, Berwickshire—equal.

COMPOSITION PRIZES.—1. A. B. Macdonald; 2. W. W. M'Kechnie.

HISTORY PRIZE.—W. W. M'Kechnie. *Honourable Mention.*—1. J. A. Johnston; 2. W. R. Henderson.

LITERATURE PRIZE.—J. A. Johnston. *Honourable Mention.*—1. G. W. Macdougall; 2. W. Robb, Addiewell; 3. James Drever, Stromness; David Farquharson, Stanley; James Kirk, London; and J. L. M. Watt—equal.

JUNIOR CLASS.

PRIZES.—1. Duncan M. Burden, Dundee, and J. A. MacDonald, Leith—equal (*Medallists*); 3. George W. Wilkie, Forfar; 4. Farquhar Macrae, Plockton, Ross-shire; 5. William Mackenzie, Cromarty; 6. Hugh Mitchell, Campbeltown; James F. Ross, Montrose; and Thomas Scott, Perth—equal; 9. Drummond S. Ross, Dollar; 10. David J. Tweedie, Carriden, Bo'ness; 11. David Mekie, Edinburgh; 12. E. W. Franks, Redcar; James H. Hargreaves, Lancashire; and James Masterton, Forfar—equal; 15. David Connel, Burntisland, Fife.

CERTIFICATES OF MERIT.—16. R. Shields, Ross-shire, and Joseph Chalmers, Edinburgh—equal; 18. James Forsyth, Falkland; 19. James Wallace, Edinburgh; 20. Charles Fraser, Inverness, and George D. Low, Edinburgh—equal; 22. John M. Nisbet, Edinburgh; 23. George P. Walker, Edinburgh; 24. James Craig, Cramond Bridge, and E. F. Gibson, Edinburgh—equal; 26. James A. Craig, Edinburgh; 27. H. M'D. Ross, Inverness; 28. Robert Horn, Mid-Lothian.

COMPOSITION PRIZES.—1. D. M. Burden; 2. J. A. MacDonald.

HISTORY PRIZE.—J. A. MacDonald. *Honourable Mention.*—1. D. M. Burden; Samuel Gray, Edinburgh; and W. Mackenzie, Cromarty.

LITERATURE PRIZE.—J. A. MacDonald. *Honourable Mention.*—1. J. F. Ross, and Thomas Scott—equal; E. W. Franks, and G. Marshall—equal.

GRAMMAR PRIZES.—1. J. C. Mack, Edinburgh; 2. J. H. Scott, Rothbury.

The subject for Private Readings in the Senior Greek Class in the Winter Session, 1891-92, will be Herodotus, Book III. (Macaulay's Edition, Macmillan & Co., 1890, recommended).

S. H. BUTCHER, LL.D., *Professor.*

III.—MATHEMATICS.

JUNIOR CLASS.

PRIZES AND FIRST-CLASS CERTIFICATES.—1. G. W. Wilkie, Forfar; 2. A. G. Burgess, Lanark; 3. A. E. Adams, Stirlingshire (*Medallists*); 4. T. W. Pickles, Yorkshire, and John Sutherland, Caithness—equal; 6. Henry Herd, Mid-Lothian; 7. Thomas Tait, Roxburghshire; 8. P. S. Hardie, Mid-Lothian; 9. J. B. M'Owan, Perthshire; 10. John Stevenson, Kirkcudbright; 11. J. K. Ross, Travancore; Richard Shields, Ross-shire; and D. J. Tweedie, Linlithgow—equal; 14. W. F. Harvey, Travancore; 15. Andrew Tweedie, Berwickshire; 16. A. D. Gilbert, Forfarshire.

SECOND-CLASS CERTIFICATES.—James Adamson, Forfarshire; J. B. Baillie, East Lothian; James Blair, Edinburgh; D. M. Burden, Forfarshire; George Burns, Edinburgh; Norman Campbell, Ross; James Davidson, Fife; James Drever, Orkney; E. W. Franks, Yorkshire; James Graham, Edinburgh; J. W. Grant, Moray; Robert Hutton, Fife; Stuart M'Donald, Kirkcudbrightshire; George M'Dougall, Dumfries; Alexander Miles, Lanarkshire; Magnus Mills, Mid-Lothian; Hugh Mitchell, Argyle; J. M. Robertson, Linlithgow; J. W. Robertson, Lanarkshire; Edwin Rogerson, Banff; G. A. Ross, Edinburgh; H. J. G. Ross, Perthshire; A. D. Russell, Edinburgh; Sutherland Simpson, Orkney; A. J. D. Smith, Durham; D. B. Thompson, Roxburgh; James Wood, East Lothian.

SENIOR CLASS.

PRIZES AND FIRST-CLASS CERTIFICATES.—1. James Wood, Mid-Lothian; 2. W. G. Napier, Edinburgh (*Medallists*); 3. Alexander Paton, Alloa, and T. W. Wilson, Perthshire—equal; 5. Gavin Grey, Edinburgh; Robert Macfie, Wigtownshire; and J. C. Stuart, Darlington—equal; 8. A. F. Lay, Kelso; 9. Robert Burnett, Mid-Lothian; 10. G. Scott Dalgleish, Edinburgh; 11. Robert Godfrey, Edinburgh; 12. T. G. Bailey, Edinburgh, and H. P. Macmillan, Renfrew—equal; 14. D. N. C. Hogg, Fife; 15. G. L. Moffat, Edinburgh.

SECOND-CLASS CERTIFICATES.—T. C. Baillie, Peeblesshire; A. C. M. Bell, Mid-Lothian; D. G. Hamilton, Kirkcudbrightshire; George Henderson, Forfarshire; J. S. Ker, Roxburghshire; W. G. Rennie, Aberdeen; Franklin Ross, Berwickshire; Henry Spence, Northumberland.

ADVANCED CLASSES.

PRIZE, MEDAL, AND FIRST-CLASS CERTIFICATE.—W. E. Philip, Forfarshire.

FIRST-CLASS CERTIFICATES.—* J. C. Beattie, Cumberland; * John Forbes, Ross-shire; Alfred Hay, Edinburgh; * A. M. Hunter, Edinburgh; Neil Macmichael, Argyllshire; James Mitchell, Edinburgh; * W. L. Thomson, Perthshire; John Turner, Scotland.

SECOND-CLASS CERTIFICATE.—P. F. Gillies, Edinburgh.

* Attending for the second time, and, therefore, not eligible for prizes and medals.

G. CHRYSTAL, LL.D., *Professor.*

IV.—LOGIC AND METAPHYSICS.

ADVANCED CLASS—METAPHYSICS.

PRIZES.—1. (*Bruce of Grangehill and Falkland Prize.*)—Henry Barker, Edinburgh; 2. W. C. Murray, Canada; 3. John Davidson, Edinburgh (*Medallists*); 4. Purnananda Chatterji, Dacca, East Indies; 5. W. Allan Neilson, Perthshire; 6. Martin J. Botha, Cape of Good Hope; 7. Alexander Grieve, Roxburghshire; 8. George Henderson, Inverness-shire.

FOR AN ESSAY OF DISTINGUISHED MERIT.—John Gunn, Edinburgh.

UNIVERSITY CERTIFICATES OF DISTINCTION.—A. J. Pearce, Madagascar; H. H. Murray, Brechin.

JUNIOR CLASS—LOGIC AND PSYCHOLOGY.

PRIZES.—1. A. C. Montgomerie Bell, Portobello (*Medallist*); 2. W. J. Pennell, Fifeshire; 3. W. J. Collier, Nairn; R. P. Davidson, Wigtownshire; and H. P. Macmillan, Greenock—equal; 6. J. M. Moore, Lauder, and Sydney Smith, Edinburgh—equal; 8. George Henderson, Dundee; 9. W. R. Colville, London; 10. R. Macfie, Wigtownshire; 11. A. W. Dick, Edinburgh; H. Herd, Leith; N. Macnaughton, Perthshire; and T. W. Wilson, Perthshire—equal; 15. James Burnet, Edinburgh, and Angus Macdonald, Edinburgh—equal,

UNIVERSITY CERTIFICATES OF DISTINCTION.—1. G. H. Douglas, Roxburghshire; J. Mackintosh, Kingussie; J. Wallace, Aberdeenshire; and D. Waterston, Dundee—equal; 5. G. P. Johnstone, Glasgow; 6. J. Blair, Edinburgh; A. G. Oliver, Cambusnethan; Franklin Ross, Coldstream; and M. C. Wood, Orkney—equal; 10. R. J. Peat, Edinburgh; 11. A. D. Gilbert, Arbroath; L. Ker, Leicester; and A. C. Sturrock, Linlithgow—equal; 14. H. L.

Jackson, Edinburgh; R. M. Samson, Cumnock; and S. Wallace, Leven—equal; 17. J. A. Christie, Haddington; D. G. Hamilton, Birkenhead; J. C. M'Tavish, Edinburgh; R. D. Robertson, East Lothian; George A. Ross, Edinburgh; Henry F. Sim, Braemar; and G. F. Soutar, Coupar-Angus—equal.

A. CAMPBELL FRASER, D.C.L. and LL.D., *Professor.*

V.—MORAL PHILOSOPHY.

ADVANCED CLASS—HISTORY.

PRIZES.—1. Henry Barker, Edinburgh (*Medallist*); 2. Thomas Linton, Edinburgh; 3. W. Allan Neilson, Perthshire.

FIRST-CLASS CERTIFICATES.—1. A. J. Pearse, Madagascar; 2. M. J. Botha, South Africa.

SPECIAL MERIT IN ESSAY ON ANCIENT AND MODERN ETHICS.—John Gunn, M.A., Edinburgh.

ORDINARY CLASS.

PRIZES.—1. Hugh R. Mackintosh, Ross-shire; 2. A. B. Macaulay, Ayrshire; 3. David S. Crichton, Barrow-in-Furness; 4. William F. Trotter, Leith (*Medallists*); 5. D. R. Scott, Cheshire; David M. Watson, Edinburgh; and Robert Welsh, Forfarshire—equal; 8. J. K. Wilkin, Dumfriesshire; 9. Malcolm M'Innes, Inverness-shire; 10. William Mill, Edinburgh, and George Mitchell, Dundee—equal; 12. Archibald C. Dawson, India; 13. James Gall, Perth; 14. Alexander M'Callum, Edinburgh; 15. John A. Milroy, Wigtownshire; 16. W. J. Pennell, Fifeshire, and Charles C. Goodlet, Gateshead—equal.

CERTIFICATES OF DISTINCTION.—18. Naughton MacNaughton, Perthshire, and M. C. Wood, Orkney—equal; 20. Alexander Mackenzie, Dingwall; 21. P. S. Black, Edinburgh; Archibald S. Morton, Trinidad; and Thomas M. Ness, Dundee—equal; 24. John Linton, Newhaven, and James Wilson, Strathmiglo—equal; 26. Andrew W. Dick, Edinburgh, and Charles Edward Stuart, Edinburgh—equal; 28. J. H. Dickie, Kinross-shire; 29. Thomas R. Watson, Edinburgh; 30. Andrew Lee, Berwickshire, and Neil Macmichael, Argyllshire—equal; 32. John A. T. Robertson, Cheltenham; Donald L. Cameron, Edinburgh; and David Arnot, Kinross—equal; 35. James C. M'Leod, Fifeshire; 36. Donald Menzies, Dunkeld; 37. Charles Cooper, Forfarshire; 38. John Burr, Forfarshire; 39. Thomas M. Dey, Aberdeen.

SPECIAL STUDY OF KANT'S ETHICS.—1. Hugh R. Mackintosh, Ross-shire (*Medallist*); 2. D. R. Scott, Cheshire; 3. John A. Milroy, Wigtownshire, and W. F. Trotter, Leith—equal. *Distinction*—5. W. J. Pennell, Fifeshire; 6. Charles C. Goodlet, Gateshead, and A. B. Macaulay, Ayrshire—equal; 8. David S. Crichton, Barrow-in-Furness; 9. Alexander M'Callum, Edinburgh.

H. CALDERWOOD, LL.D., *Professor.*

VI.—NATURAL PHILOSOPHY.

LOWER DIVISION.

PRIZEMEN AND CERTIFICATE OF MERIT.—1. A. Paton, Alloa; 2. T. C. Baillie, Peeblesshire; 3. R. Fairbairn, Edinburgh; 4. P. Hardie, Edinburgh (*Medallists*); 5. W. R. Colville, London, and T. M. Dey, Edinburgh—equal; 7. J. D. Gregorson, Argyllshire; 8. A. B. Macaulay, Ayrshire, and T. Wilson, Perthshire—equal; 10. J. A. Christie, Fifeshire; R. Macfie, Wigtownshire; and W. S. Reid, Ayrshire—equal; 13. H. S. Ballantyne, Edinburgh, and H. Macmillan, Lanarkshire—equal; 15. Gavin Grey, Edinburgh; 16. R. Horn, Linlithgow; 17. J. Wallace, Aberdeenshire.

UNIVERSITY CERTIFICATES.—18. A. Cowan, Mid-Lothian; J. Fleming, Mid-Lothian; A. C. Sturrock, Linlithgow; D. Waterston, Forfarshire; and J. Wood, Mid-Lothian—equal; 23. G. Moffat, Edinburgh; 24. C. Dykes, London; J. Horn, Edinburgh; and M. M. F. Peterson, Shetland—equal; 27. S. Carmichael, Perthshire; 28. G. R. Farncombe, Worcestershire; 29. D. Flett, Orkney, and A. Macdonald, Edinburgh—equal; 31. W. F. Trotter, Leith; 32. A. Bell, Edinburgh, and B. L. Seawell, America—equal; 34. D. W. Currie, Clackmannan; G. Henderson, Forfarshire; J. J. M'Lean, Argyllshire; A. Miles, Lanarkshire; and F. Ross, Berwickshire—equal; 39. R. Buchanan, Edinburgh; A. C. Houston, Inverness-shire; J. Mackison, Forfar; and J. D. Slight, Mid-Lothian—equal; 43. John Mitchell, Forfarshire; 44. Thomas R. Watson, Edinburgh; 45. D. Hogg, Fife; 46. J. C. Stuart, Yorkshire; 47. W. P. Chalmers, Forfarshire, and D. G. Hamilton, Kirkcudbright—equal.

HIGHER DIVISION.

UNIVERSITY CERTIFICATE.—R. Burnet.

PRIZE FOR ORDINARY EXAMINATIONS.—1. P. Hardie, Edinburgh, and A. Paton, Alloa—equal (*Prizemen*); 3. H. Macmillan, Lanarkshire; 4. R. Fairbairn, Edinburgh; 5. W. R. Colville, London; 6. T. C. Baillie, Peeblesshire, and J. M. Dey, Edinburgh—equal; 8. G. Grey, Edinburgh, and A. B. Macaulay, Ayrshire—equal; 10. A. Bell, Edinburgh; 11. D. Waterston, Forfarshire; 12. J. D. Gregorson, Argyllshire; 13. H. S. Ballantyne, Edinburgh; J. A. Christie, Fifeshire; and C. Dykes, London—equal; 16. A. C. Houston, Inverness; J. Mackison, Forfar; J. D. Slight, Mid-Lothian; T. Wilson, Perthshire; J. Wood, Mid-Lothian—equal.

PHYSICAL LABORATORY.

The following are highly commended:—T. C. Baillie, Beattie, Bolam, Bryson, Dick, Durham, R. Fairbairn, G. Grey, Hay, Lees, Miles, Somerville, Wood.

The Neil-Arnott Scholarship is awarded to T. C. Baillie.

ADVANCED CLASS.

UNIVERSITY CERTIFICATES.—1. A. Hay, Edinburgh; 2. J. R. Dick, Forfarshire; and W. L. Philip, Forfarshire—equal (*Prizemen*); 4. A. M. Hunter, Edinburgh, and J. Mitchell, Edinburgh—equal; 6. J. C. Beattie, Cumberland; W. L. Thomson, Perthshire; and J. Turner, Edinburgh—equal.

P. G. TAIT, M.A., *Professor.*

VII.—RHETORIC AND ENGLISH LITERATURE.

I.—CLASS PRIZES AND CERTIFICATES OF DISTINCTION.

PRIZES.—1. George Liddell, Edinburgh; 2. John Linton, Newhaven (*Medallists*); 3. Jas. W. Grant, Grantown; 4. Stewart Robertson, Mid-Lothian; 5. Charles Edward Stuart, Edinburgh; 6. Peter Campbell, Birmingham; 7. H. J. Harrison, Edinburgh; 8. T. W. Pickles, Yorkshire; 9. William Fulton, Galashiels; 10. David Maxwell, Forfarshire; 11. Neil Macmichael, Argyllshire; 12. David S. Crichton, Barrow-in-Furness; 13. Henry Herd, Leith; 14. A. S. Morton, West Indies; 15. C. C. Goodlet, Tweedmouth; 16. N. Macnaughton, Perthshire; 17. John T. Allan, Edinburgh; 18. Robert S. Hill, Markinch; 19. F. D. Westwater, Fife; 20. T. B. Lamb, Cumberland, and Donald Menzies, Perthshire—equal.

CERTIFICATES OF DISTINCTION.—22. T. Marjoribanks, East Lothian; 23. F. R. T. Pearson, Barrow-in-Furness; 24. James Fleming, Hawick, and James L. Munro, Ross-shire—equal; 26. D. R. Scott, Airdrie; 27. Geo. Guild, Arbroath; 28. J. A. Robertson, Cheltenham; 29. Alex. Campbell, Edinburgh; 30. J. H. Dickie, Kinross-shire; 31. Thomas Tait, Hawick; 32. John W. Lowthian, Carlisle; 33. David Arnot, Kinross; 34. John Bowie, Edinburgh; 35. Jas. E. Mackay, Caithness; 36. Chas. S. Hendry, Blairgowrie, and Jas. L. Linton, Edinburgh—equal; 38. Alex. Chisholm, Edinburgh; 39. Jas. Hood, Perth; 40. J. K. Wilkin, Dumfriesshire; 41. W. E. Philip, Dundee; 42. Alex. Macfarlane, Dalkeith, and Chas. Menmuir, Arbroath—equal.

II.—ESSAY PRIZES AND CERTIFICATES OF DISTINCTION.

PRIZES.—1. Charles Edward Stuart, Edinburgh; 2. David S. Crichton, Barrow-in-Furness (*Medallists*); 3. J. Malcolm Tait, Stirling; 4. Peter Campbell, Birmingham; 5. John Linton, Newhaven; 6. Stewart Robertson, Mid-Lothian; 7. H. J. Harrison, Edinburgh; 8. W. L. Smith, Colme; 9. J. K. Kelly, Wigtownshire; 10. T. M. Ness, Dundee; 11. Thos. Marjoribanks, East Lothian; 12. G. Scott-Dalgleish, Edinburgh, and J. H. Dickie, Kinross-shire—equal.

CERTIFICATES OF DISTINCTION.—14. J. F. Moncreiff, Edinburgh; 15. Jas. Mitchell, Edinburgh; 16. Alex. Campbell, Edinburgh,

J. R. Cormack, Victoria, and T. B. Lamb, Cumberland—equal; 19. Daniel Williams, Monmouthshire; 20. J. T. Allan, Edinburgh; J. W. Grant, Grantown; R. S. Hill, Markinch; and A. S. Morton, West Indies—equal; 24. David Arnot, Kinross; C. S. Hendry, Blairgowrie, and D. R. Scott, Airdrie—equal; 27. A. Dickson, Campsie; F. R. Mackenzie, Edinburgh; M. Nicolson Munro, Island of Lewis, and S. Wallace, Leven—equal.

III.—FOR WORK IN OLD ENGLISH.

PRIZES.—1. J. W. Grant, Grantown; 2. Neil Macmichael, Argyllshire, and Charles Edward Stuart, Edinburgh—equal.

IV.—FOR POETICAL COMPOSITION.

PRIZE.—Charles D. Meyer, Edinburgh.

DAVID MASSON, LL.D., *Professor.*

PRACTICAL ASTRONOMY.

MEDAL AND FIRST-CLASS CERTIFICATE. — Andrew J. Ramsay, Edinburgh.

RALPH COPELAND, PH.D., *Professor.*

VIII.—AGRICULTURE AND RURAL ECONOMY.

FIRST-CLASS CERTIFICATES.—1. John Campbell, Lockerbie (*Medallist*); 2. E. Rouillard, Mauritius, and A. Fortune, Portsoy—equal; 4. A. B. Stevens, Bridge of Earn; 5. R. B. Greig, Windygates, and J. M'Kinnell, Lochgilphead—equal; 7. J. L. Duncan, Bute; 8. P. H. Foulkes, Abergele, and J. Wilson, Dolphinton—equal; 10. D. W. Simpson, Dundee, H. M. Pattullo, Kirriemuir, and W. D. Elder, Edinburgh—equal: 13. James Hutton, Milnathort, and J. Milligan, Thornhill, Dumfries — equal; 15. T. D. Mitchell, Fliskmillan, Fife; 16. R. S. Seton, East Wattens, Caithness; 17. A. C. Forbes, Slough, Berks; 18. F. S. Cook, Chesterton, Cambridge.

SECOND-CLASS CERTIFICATES.—19. William H. Fairfax-Cholmeley, Easingwold; 20. A. Waterfield, London, and J. Lyle, Montrose —equal; 22. T. W. Cuthbert, Edinburgh.

STEVEN SCHOLARSHIP, value about £75.—J. Campbell.

HIGHLAND SOCIETY BOOK PRIZES.—R. B. Greig, T. A. Coward, and James M'Kinnell—equal. The three Highland Society prizemen each receive books to the value of £3, 6s. 8d.

MEDAL FOR ESSAY ON FARM EXCURSIONS.—P. H. Foulkes.

ROBERT WALLACE, *Professor.*

IX.—AGRICULTURAL ECONOMICS.

FIRST-CLASS CERTIFICATES.—1. John Campbell (*Medal* and *Prize*); 2. Rob. S. Seton (*Prize*); 3. W. D. Elder, James Wilson, and L. R. Wilson—equal; 6. J. Hutton.

SECOND-CLASS CERTIFICATES.—7. W. H. Brendon, E. W. Caddick, T. W. Cuthbert, and J. D. Duncan—equal.

J. SHIELD NICHOLSON, D.Sc., *Professor.*

X.—MUSIC.

HARMONY AND COUNTERPOINT.—1. Alexander Geoghegan, M.A., Edinburgh; 2. Alexander C. M. Bell, Edinburgh, and R. A. Scott Macfie, Cheshire—equal.

ORGAN.—Robert Cassells, Linlithgow.

For the Professor of Music—
JOHN GREIG, M.A. (Edin.), Mus. Doc. (Oxon.)

XI.—SANSKRIT AND COMPARATIVE PHILOLOGY.

SENIOR CLASS.

John Maclennan, M.A. (*Class Medal, First-Class Certificate of Merit, and Muir Class Prize of £10*).

JUNIOR CLASS.

1. William Menzies (*Class Medal, First Class Certificate of Merit, and Muir Prize of £3*); 2. John M. Tait (*First-Class Certificate of Merit, and Muir Prize of £2*).

JULIUS EGGELING, Ph.D., *Professor.*

XII.—ENGINEERING.

SUMMER SESSION, 1890.

FIELD-WORK.

FIRST-CLASS CERTIFICATES.—J. R. Dick (*Medal*), A. Gilfillan.

SECOND-CLASS CERTIFICATES.—R. J. Irving, H. W. Joyce.

WINTER SESSION, 1890-91.

ENGINEERING.

FIRST-CLASS CERTIFICATES.—J. R. Dick (*Prize*), G. W. Herdman (*Medal*), G. Moncur (*Prize*), A. Ogilvie (*Prize*), G. H. Stevenson, J. A. Purvis.

SECOND-CLASS CERTIFICATES.—R. H. Brown, C. A. R. Farrell, R. H. A. Watson.

GEOMETRICAL AND MECHANICAL DRAWING.

FIRST-CLASS CERTIFICATES.—G. Moncur (*Medal*), G. W. Herdman (*Prize*), J. R. Dick, G. H. Stevenson, J. A. Purves.

SECOND-CLASS CERTIFICATES.—C. A. R. Farrel, R. H. A. Watson.

G. F. ARMSTRONG, M.A., C.E., *Professor.*

XIII.—GEOLOGY AND MINERALOGY.

SUMMER SESSION, 1890.

STRUCTURAL AND FIELD GEOLOGY.

FIRST-CLASS HONOURS.—1. Andrew R. Wilson, Edinburgh (*Medal*); 2. W. B. Drummond, Edinburgh; 3. Thos. A. Coward, Carlisle; 4. John Murray, Forfarshire; 5. Geo. H. Stevenson, Bridge of Allan; 6. R. J. Irving, Cumberland.

SECOND-CLASS HONOURS.—7. George M'Kellar, Mid-Lothian: 8. A. Gilfillan, Victoria; 9. Angus Macdonald, Edinburgh; 10. W. G. Rattray, Edinburgh; 11. E. A. Fulton, Westmoreland; 12. Percy H. Foulkes, Wales.

WINTER SESSION, 1890-91.

GEOLOGY AND MINERALOGY.

FIRST-CLASS CERTIFICATES.—John S. Flett, Orkney (*Medallist*); Robert Pollok, Leith; David Russell, Leven; Alex. Gilfillan, Australia.

SECOND-CLASS CERTIFICATES.—A. M. Kellas, Aberdeen; Duncan Munro, Argyllshire.

PRACTICAL GEOLOGY AND MINERALOGY.

FIRST-CLASS CERTIFICATES.—J. C. Flett, Orkney (*Medallist*); D. Russell, Leven; T. Taylor, Edinburgh; R. Pollok, Partick.

SECOND-CLASS CERTIFICATES.—F. R. Pearson, Edinburgh; F. R. S. Walker, St Andrews; A. A. M'Dougall, Berwickshire; and A. M. Kellas, Aberdeen—equal; B. Campbell, Leith.

JAMES GEIKIE, LL.D., D.C.L., *Professor.*

XIV.—THEORY, HISTORY, AND ART OF EDUCATION.

MEDALS.—W. B. Dennison, M.A.; H. A. Jamieson; Wm. Robb.

FIRST-CLASS CERTIFICATES.—Alexander Bain, James Blair, John Bowie, W. P. Cooper, W. Darling, James Davidson, W. B. Dennison, Arthur A. Foster, Alexander D. Gilbert, Alexander Gray, Robert Hutton, Ernest W. Hobbs, Alex. T. Ireland, H. A. Jamieson, J. M. Lowe, W. Mackenzie, Donald Menzies, Ebenezer Mitchell, James M. Moore, Robert J. Peat, Wm. Robb, G. A. Ross, H. J. Ross, G. F. Soutar, D. B. Thompson, D. J. Tweedie, W. B. Watson, James Webster, D. B. White, G. N. Wilkie.

S. S. LAURIE, LL.D., *Professor.*

XV.—FINE ART.

COUSIN PRIZE.—J. Malcolm Tait.

G. BALDWIN BROWN, M.A., *Professor.*

XVI.—CELTIC LANGUAGES AND LITERATURE.

PRIZES AND FIRST-CLASS CERTIFICATES.—1. Alexander MacAskill, M.A., Carloway (*Medallist*); 2. Neil Mackay, M.A., Strathy; 3. Charles M. Robertson, Logierait; 4. John Fraser, M.A., Dingwall, and Malcolm M'Leod, Lochs—equal.

SECOND-CLASS CERTIFICATE.—George Murray, Rogart.

SPECIAL PRIZES.—£10 10s. *given by the Highland Society of London*—Alexander MacAskill; £5 *given by the Gaelic Society of Perth*—Neil Mackay, M.A.; £5 *given by the Argyll, Bute, and Western Isles Association*—Charles M. Robertson and Malcolm Macleod.

ESSAY PRIZE.—On the Influence of the Norse Occupation on the Language and Literature of the Scottish Highlands—Neil Mackay, M.A.

A Special Prize will be given in Session 1891-92 for the best Essay on "Holy Scripture in the Old Gaelic Church." The Essay to be given in by 31st December 1891.

DON. MACKINNON, M.A., *Professor.*

XVII.—FORESTRY.

FIRST-CLASS CERTIFICATE AND MEDAL.—A. C. Forbes.

SECOND-CLASS CERTIFICATE.—J. C. Angus.

WILLIAM SOMERVILLE, D. ŒCON., B.Sc., *Lecturer.*

XVIII.—AGRICULTURAL ENTOMOLOGY.

FIRST-CLASS HONOURS.—1. Chas. Gregor (*Medallist*); 2. J. Campbell; 3. J. A. Coward, and A. C. Forbes—equal; 5. Alex. B. Stevens.

SECOND-CLASS HONOURS.—6. Wm. D. Elder, and E. A. Fulton—equal; 8. P. H. Foulkes; 9. Jas. W. Lyall; 10. A. Waterfield; 11. J. Milligan; 12. P. G. Waterfield; 13. Jas Hutton.

W. FREAM, B.Sc. (Lond.), *Lecturer.*

TUTORIAL CLASSES.

SUMMER SESSION, 1890.

I.—HUMANITY.

THIRD CLASS.

This Class met regularly, but no Competitive Examinations were held.

SENIOR CLASS.

PRIZES AND FIRST-CLASS CERTIFICATES OF MERIT.—1. Neil Macmichael, Argyllshire; 2. James Adamson, Dundee; 3. James Drever, Orkney; 4. W. Paterson-Lindsay, Lanarkshire.

SECOND-CLASS CERTIFICATES OF MERIT.—5. John Henderson, Morebattle; 6. A. Duncan-Smith, Dundee; 7. Charles Corsar, Arbroath; 8. John M. Robertson, Bathgate; 9. Alexander Williamson, Edinburgh; 10. R. A. Lee, Edinburgh.

PRIZE FOR LATIN PROSE COMPOSITION.—1. Neil Macmichael, Argyllshire. *Honourable Mention.*—2. Charles Corsar, Arbroath; 3. W. Paterson-Lindsay, Lanarkshire; 4. James Adamson, Dundee.

PRIZE FOR ENGLISH ESSAY.—1. A. Duncan Smith, Dundee. *Honourable Mention.*—2. R. A. Lee, Edinburgh; 3. Alexander Williamson, Edinburgh; 4. J. Adamson, Dundee.

JUNIOR CLASS.

PRIZE AND FIRST-CLASS CERTIFICATE OF MERIT.—1. D. A. Macdonald, Edinburgh.

SECOND-CLASS CERTIFICATES OF MERIT. — 2. David Murray, Laurencekirk; 3. James Moncrieff, Perth.

FRANCIS R. JAMIESON, M.A.,
Assistant to the Professor of Humanity.

II.—GREEK.

ADVANCED CLASS.

No Competitive Examinations held.

SENIOR CLASS.

PRIZES AND FIRST-CLASS CERTIFICATES.—1. J. Adamson, Forfar, and A. Maclennan, Fortrose—equal; 3. A. D. Smith, Dundee; 4. J. Drever, Stromness.

SECOND-CLASS CERTIFICATES.—5. J. Henderson, Morebattle, and W. P. Lindsay, Lanarkshire—equal; 7. W. A. Skinner, Lauder; 8. J. R. Murdoch, Edinburgh; 9. A. Williamson, Edinburgh.

GREEK PROSE COMPOSITION.—*Prize*—A. D. Smith; *Honourable Mention*—J. Drever.

JUNIOR CLASS.

PRIZE.—J. Gibson, Edinburgh.

SECOND-CLASS CERTIFICATE.—David Murray, Laurencekirk.

J. A. SMITH, M.A.,
Assistant to the Professor of Greek.

III.—MATHEMATICS.

JUNIOR CLASS.

FIRST-CLASS CERTIFICATES.—W. M. Taylor, Edinburgh, and James Adamson, Forfar.

SENIOR CLASS.

PRIZES AND FIRST-CLASS CERTIFICATES.—James Wood, Edinburgh, and Gavin Grey, Edinburgh.

SECOND-CLASS CERTIFICATES.—D. G. Hamilton, Birkenhead, and Franklin Ross, Edinburgh.

ADVANCED CLASS.

In this Class Lectures were given on Determinants, the Theory of Equations, and the Elements of the Differential and Integral Calculus, but no Examinations were held.

R. E. ALLARDICE, M.A.,
Assistant to the Professor of Mathematics.

IV.—LOGIC AND PSYCHOLOGY.

FIRST-CLASS CERTIFICATES.—George Liddell, Mid-Lothian; William J. Pennell, Fife.

SECOND-CLASS CERTIFICATES.—J. Burnet, Edinburgh; R. P. Davidson, Wigtownshire; A. G. Oliver, Lanarkshire.

R. P. HARDIE, M.A.,
Assistant to the Professor of Logic and Metaphysics.

V.—MORAL PHILOSOPHY.

PRIZES AND FIRST-CLASS CERTIFICATES.—Malcolm MacInnes, Inverness-shire; W. J. Pennell, Fifeshire.

SECOND-CLASS CERTIFICATES. — John Davidson, Wigtownshire; Thomas Marjoribanks, East Lothian; J. A. Milroy, Wigtownshire; A. G. Oliver, Lanarkshire.

W. G. SMITH, M.A.,
Assistant to the Professor of Moral Philosophy.

VI.—NATURAL PHILOSOPHY.

JUNIOR CLASS.

PRIZEMEN.—1. H. S. Ballantyne; 2. Gavin Grey.

ADVANCED CLASS.

No Examination held.

W. PEDDIE, D.Sc.,
Assistant to the Professor of Natural Philosophy.

VII.—RHETORIC AND ENGLISH LITERATURE.

A. ESSAYS.

FIRST-CLASS CERTIFICATE.—A. C. Forsyth, London.
SECOND-CLASS CERTIFICATES.—J. Middleton, Stow; Alexander G. Oliver, Lanarkshire; Robert Wilson, Edinburgh.

B. CLASS EXAMINATIONS.

SECOND-CLASS CERTIFICATES. — Robert Wilson, Edinburgh; Peter Campbell, Edinburgh; Alexander G. Oliver, Lanarkshire.
A. C. Forsyth was not present at the Second Examination.

G. GREGORY SMITH, M.A.,
Assistant to the Professor of Rhetoric and English Literature.

Examination Papers for Degrees in Arts.

EXAMINATION FOR CURRICULUM OF THREE SESSIONS AND FOR FIRST YEAR OPEN BURSARIES.

LATIN.

Saturday, 18th October 1890.—9 *to* 12 *o'clock.*

I. Translate into Latin:—

The success with which their enterprise had thus far been crowned raised their spirits, and imparted to their language a vain-glorious tone little in accordance with their condition as a defeated and fugitive horde. They sent deputies to the Roman general, offering him his choice of peace or war. It was the custom, they said, of their nation never to decline the combat with an enemy who challenged them: however, they had gained their immediate object; they had found the settlements they sought; with the Romans they had no quarrel; they were content to live upon the soil they had seized; all they claimed was the right to do so unmolested. They proclaimed aloud the valour by which these acquisitions had been so rapidly made, and ended by declaring that they yielded in strength and bravery to no nation under the sun, excepting only the Suevi, whom the gods themselves could not withstand. Cæsar replied, as was his wont, by claiming it as the province and duty of a Roman pro-consul to protect the Gauls against all external enemies.

II. Translate into English:—

[*Philippus defends himself before the Roman legates against the charges of aggression brought forward by his neighbours.*]

Tot annos esse per quos numquam cessaverint legati nunc ad imperatores Romanos nunc Romam ad senatum crimina de se deferre: quem umquam verbo violatum esse? Semel euntibus ad Quinctium insidias dici factas, sed quid iis acciderit, non adici. Quaerentium quod falso obiciant, cum veri nihil habeant, ea crimina esse. Insolenter et immodice abuti Thessalos indulgentia populi Romani, velut ex diutina siti nimis avide meram haurientes libertatem, itaque servorum modo praeter spem repente manumissorum licentiam vocis et linguae experiri et iactare sese insectatione et convitiis dominorum. Elatus deinde ira adiecit nondum omnium dierum solem occidisse. Id minaciter dictum non Thessali modo in sese, sed etiam Romani acceperunt. Et cum fremitus post eam vocem ortus et tandem sedatus esset, Perrhaeborum inde Athamanumque legatis respondit, eandem de quibus illi agant, civitatium causam esse: consulem Acilium et Romanos sibi dedisse eas, cum hostium essent. Si suum munus qui dedissent adimere velint, scire cedendum esse; sed meliori et fideliori amico in gratiam levium et inutilium sociorum iniuriam eos esse facturos.

III. (*To be done by candidates for Bursaries.*)

CH. Ita me di amabunt, ut nunc Menedemi uicem
Miseret me: tantum deuenisse ad eum mali.
Illancine mulierem alere cum illa familia!
Etsi scio, hosce aliquot dies non sentiet:
Ita magno desiderio fuit ei filius.
Verum ubi uidebit tantos sibi sumptus domi
Cotidianos fieri nec fieri modum,
Optabit rursum ut abeat ab se filius.
Syrum optume eccum. SY. Cesso hunc adoriri? CH. Syre.
SY. Hem.
CH. Quid est? SY. Te mi ipsum iam dudum optabam dari.
CH. Videre egisse iam nescio quid cum sene.
SY. De illo quod dudum? Dictum ac factum reddidi.
CH. Bonan fide? SY. Bona. CH. Hercle non possum pati,
Quin tibi caput demulceam: accede huc, Syre:
Faciam boni tibi aliquid pro ista re, ac lubens.

GREEK.

Saturday, 18*th October* 1890.—1 *to* 4 *o'clock.*

I. Translate:—

(1.) Ὁ μὲν ταῦτ' εἰπὼν ἐκαθέζετο· Θηραμένης δὲ ἀναστὰς ἔλεξεν, Ἀλλὰ πρῶτον μὲν μνησθήσομαι, ὦ ἄνδρες, ὃ τελευταῖον κατ' ἐμοῦ εἶπε. φησὶ γάρ με τοὺς στρατηγοὺς ἀποκτεῖναι κατηγοροῦντα. ἐγὼ δὲ οὐκ ἦρχον δήπου κατ' ἐκείνων λόγου, ἀλλ' ἐκεῖνοι ἔφασαν, προσταχθέν μοι ὑφ' ἑαυτῶν, οὐκ ἀνελέσθαι τοὺς δυστυχοῦντας ἐν τῇ περὶ Λέσβον ναυμαχίᾳ. ἐγὼ δὲ

ἀπολογούμενος ὡς διὰ τὸν χειμῶνα οὐδὲ πλεῖν, μὴ ὅτι ἀναιρεῖσθαι τοὺς ἄνδρας δυνατὸν ἦν, ἔδοξα τῇ πόλει εἰκότα λέγειν, ἐκεῖνοι δὲ ἑαυτῶν κατηγορεῖν ἐφαίνοντο. φάσκοντες γὰρ οἷόν τε εἶναι σῶσαι τοὺς ἄνδρας, προέμενοι αὐτοὺς ἀπολέσθαι ἀποπλέοντες ᾤχοντο. οὐ μέντοι θαυμάζω γε τὸ Κριτίαν παρανενομηκέναι· ὅτε γὰρ ταῦτα ἦν, οὐ παρὼν ἐτύγχανεν, ἀλλ' ἐν Θετταλίᾳ μετὰ Προμηθέως δημοκρατίαν κατεσκεύαζε καὶ τοὺς πενέστας[1] ὥπλιζεν ἐπὶ τοὺς δεσπότας.

(2.) Ὣς φάτο, τῷ δ' ἄρα πατρὸς ὑφ' ἵμερον ὦρσε γόοιο·
ἀψάμενος δ' ἄρα χειρὸς ἀπώσατο ἦκα γέροντα.
τὼ δὲ μνησαμένω, ὁ μὲν Ἕκτορος ἀνδροφόνοιο
κλαῖ' ἀδινὰ, προπάροιθε ποδῶν Ἀχιλῆος ἑλυσθείς,
αὐτὰρ Ἀχιλλεὺς κλαῖεν ἑὸν πατέρ', ἄλλοτε δ' αὖτε
Πάτροκλον· τῶν δὲ στοναχὴ κατὰ δώματ' ὀρώρει.
αὐτὰρ ἐπεί ῥα γόοιο τετάρπετο δῖος Ἀχιλλεὺς,
καὶ οἱ ἀπὸ πραπίδων ἦλθ' ἵμερος ἠδ' ἀπὸ γυίων,
αὐτίκ' ἀπὸ θρόνου ὦρτο, γέροντα δὲ χειρὸς ἀνίστη,
οἰκτείρων πολιόν τε κάρη πολιόν τε γένειον,
καί μιν φωνήσας ἔπεα πτερόεντα προσηύδα.

II. Give the stem, genit. and dative sing., and accusat. plur., of ἀήρ—χάρις—κανοῦν—λῃστης—κλείς—ἰχθύς—ἦπαρ—πατήρ—δόρυ—πούς.

Parse ᾔδη—ᾖμεν—εἶσο—ἄνωχθι—ἀνείς—νένιμμαι—ἐμίγησαν—καθεδεῖται—τλῆθι—κεχήνατε—προσκέοιντο.

Give the chief tenses of ἐγείρω—θιγγάνω—κλαίω—στέλλω—φημί—κάμνω—ἐῶ—ἐσθίω—σκοπῶ—ἀρέσκω—ἄλλομαι—πέσσω—ἀνοίγω.

III. Translate into Greek :—

(1.) I did this from a wish to save the whole city.

(2.) Do you not admit that there is a difference between justice and expediency?

(3.) Do not condemn to death one who has done no wrong.

(4.) They hoped that their own land would not be ravaged (τέμνω) if they kept quiet.

(5.) They did not dare to make war upon us till they had seized (συλλαμβάνω) our generals.

IV. Correct the Greek of the following sentences :—

(1.) ἠρώτουν αὐτὸν εἰ μεθ' ἑμεῖο πλεύσει εἰς τὸν νῆσον, ἀλλ' ὁ ἔφη ὅτι οὐκ ἐτόλμα τοῦτο ποιεῖν.

(2.) τὸν βῶμον ἐλλάβετο, δεινὸν γὰρ ἔφαινεν οἳ εἰ ἀποθνήξει.

(3.) ἐὰν παρήλθῃ εἷς ὅστις δύναιτο τὰ ἐόντα διδάξειν, πάντες ῥηϊδίως ἀκούσουσιν αὐτῷ.

(4.) ἡμεῖς αἱ Σειρῆναι πάντα ἐπιστάμεσθα ὅσσα ἐγένοντο καὶ ὅσσα γένηται.

(5.) ταῦτα πυθόντες ἐκέλευσαν ἵνα πρέσβεας πέμπωσιν εἰς τὸνβασιλῆ.

[1] πενέστας, "serfs."

For Candidates for Bursaries only.

V. [*Megara, wife of Heracles, is the speaker, and addresses Amphitryon, the father of Heracles. Megara, Amphitryon, and the children of Heracles are under sentence of death from Lycus, ruler of Thebes.*]

Translate :—

σκέψαι δὲ τὴν σὴν ἐλπίδ', ἢ λογίζομαι.
ἥξειν νομίζεις παῖδα σὸν γαίας ὕπο·
καὶ τίς θανόντων ἦλθεν ἐξ Ἄιδου πάλιν ;
ἀλλ' ὡς λόγοισι τόνδε μαλθάξαιμεν ἂν ;
ἥκιστα· φεύγειν σκαιὸν ἄνδρ' ἐχθρὸν χρεών,
σοφοῖσι δ' εἴκειν καὶ τεθραμμένοις καλῶς·
ῥᾷον γὰρ αἰδοῦς ὑποβαλὼν φίλ' ἂν τύχοις.
ἤδη δ' ἐσῆλθέ μ' εἰ παραιτησαίμεθα
φυγὰς τέκνων τῶνδ'· ἀλλὰ καὶ τόδ' ἄθλιον,
πενίᾳ σὺν οἰκτρᾷ περιβαλεῖν σωτηρίαν·
ὡς τὰ ξένων πρόσωπα φεύγουσιν φίλοις
ἐν ἡμαρ ἡδὺ βλέμμ' ἔχειν φασὶν μόνον.
τόλμα μεθ' ἡμῶν θάνατον, ὃς μένει σ' ὅμως.

VI. For Greek Prose :—

It is likewise to be observed that this society has a peculiar cant and jargon of their own, that no others mortal can understand, and wherein all their laws are written, which they take special care to multiply; whereby they have wholly confounded the very essence of truth and falsehood, of right and wrong; so that it will take thirty years to decide whether the field left me by my ancestors for six generations belongs to me, or to a stranger three hundred miles off.

MATHEMATICS.

Monday, 20th October 1890.—9 *to* 12 *o'clock.*

N.B.—*Candidates for the Entrance Examination alone need not attempt more than* TWELVE *questions.*

1. Shew that any two sides of a triangle are together greater than the third.

Sketch, without much detail, the steps by which we can shew from this proposition that the shortest distance between two points in a plane is the straight line joining them.

Shew that a diagonal is the longest line that can be drawn between any two points on the perimeter of a regular plane polygon.

2. State and prove the proposition which shews that a triangle is uniquely determined when its three sides are given.

State the general principle regarding the determination of triangles, of which the above is a particular case.

State, without proof, how many conditions are required to determine

the size and shape (apart from the position) of the geometrical figure which consists of a quadrilateral inscribed in a circle.

Give the construction for a triangle when its base and the two perpendiculars from the ends of the base on the opposite sides are given.

3. State, as briefly as you can, the different steps in the geometrical quadrature of a plane polygon ; and give the details and proof of the last of them.

Shew how to construct a rhombus of given area, so that a pair of opposite sides shall lie on two given parallel lines, and one of the remaining sides shall pass through a given point.

4. Prove the two propositions which connect the squares on the sides of a non-right-angled triangle ; and point out their relation to the corresponding proposition for a right-angled triangle.

Shew that in any trapezium the sum of the squares on the diagonals exceeds the sum of the squares on the two non-parallel sides by twice the rectangle contained by the two parallel sides. Deduce a proposition regarding the segments of a straight line.

5. Define a circle : and deduce *directly from your definition* that one and only one circle can in general be drawn through three given points. Discuss briefly the exceptional or limiting case of this theorem.

O and A are fixed points, and OY a fixed straight line. P is a movable point on OY. PR, equal to AP, is drawn perpendicular to AP towards the opposite side from O, and PQ, equal to OP, perpendicular to OP towards the opposite side from A. Find the locus of the intersection of OR and AQ.

6. Prove that the rectangle under the segments of any chord of a circle through O is equal to the difference between the squares on the radius and on the distance of O from the centre.

ABC are three fixed points on a fixed straight line L. A circle Q touches L and A, and another circle R touches Q at P and passes through B and C. Shew that the locus of P is a circle ; and give a simple construction for its centre.

7. How many conditions are required to secure that one triangle shall be similar to another? State these two conditions in a form involving the sides alone : and prove the proposition involved.

Given two of the vertices of a triangle, and also two fixed straight lines on which the remaining vertex and the centroid respectively are to lie,—1*st*, shew by enumeration of conditions that the triangle is in general determined ; 2*nd*, give a construction for actually determining it : and point out any exceptional or limiting cases.

8. Find expressions for the radii of the inscribed and escribed circles of a triangle (r, r_1, r_2, r_3). Given A, a, r_1, to construct the triangle.

9. If a, b, l, m, l', m' denote integral numbers, positive or negative, and $lm'-l'm$ be not zero, shew that any common factor of $la+mb$ and $l'a+m'b$ which is not a factor of $lm'-l'm$ is a common factor of a and b.

If the sum of the squares of any three consecutive odd integers be increased by 1, show that the result is always a multiple of 12.

10. Explain what is meant by an *integral function of* x and by a *rational fractional function of* x.

Write down the *general* form for an integral function of x, y, u, v, which shall be of the first degree as regards x and y, and also of the first degree as regards u and v.

Shew that $\{(y^2-zx)(z^2-xy)-(x^2-yz)^2\}/x$ is a symmetric integral function of x, y, z.

Find the coefficients of x and x^2 in $(1+x+x^2)^9+(1-x+x^2)^9$.

11. If a, b, c be rational numbers, what is the condition that ax^2+bx+c be resolvable into factors of the first degree in x which have rational coefficients?

Factorise the following integral functions

$$(\alpha)\ (x-1)^2-9(x+1)^2;\ (\beta)\ (x-1)^2+9(x+1)^2;\ (\gamma)\ x^2+6x-6;$$
$$(\delta)\ (x-a)^3+(x-a-b+c)^3+(x-a+b-c)^3.$$

You are to use imaginary coefficients where necessary.

12. Give a general proof that the sum of two proper-fractional functions of x is a proper-fractional function of x: and illustrate the general theorem by a particular example. Shew that there is no corresponding theorem for arithmetical fractions.

Simplify

$$(\alpha)\ \frac{\{(pa+b)x+(pb+c)\}^2+(ac-b^2)\{x-p\}^2}{ap^2+2bp+c};$$

$$(\beta)\ \frac{x^3-1}{x^3+2x^2+2x+1}+\frac{x^3+1}{x^3-2x^2+2x-1}-2\frac{x^2+1}{x^2-1}.$$

13. What is meant by a solution or root of an equation involving one unknown quantity?

Shew that the equation of the first degree, $ax+b=0$, where a is not zero, cannot have more than the one obvious solution $x=-b/a$.

A man can walk from A to B and back in a certain time at the rate of a miles an hour. If he walks b miles an hour to and c miles an hour back he takes d minutes longer; find the distance from A to B; and point out the conditions under which this is a possible problem.

Solve the equation

$$\frac{2(a+b+c)}{(x-b)(x-c)}+\frac{2(a+b+c)}{(x-c)(x-a)}+\frac{2(a+b+c)}{(x-a)(x-b)}=\frac{3}{x-a}+\frac{3}{x-b}+\frac{3}{x-c}.$$

14. Shew by direct verification or otherwise that

$$+\sqrt{(a-\sqrt{b})}=+\sqrt{\left\{\frac{a+\sqrt{(a^2-b)}}{2}\right\}}-\sqrt{\left\{\frac{a-\sqrt{(a^2-b)}}{2}\right\}}$$

where $a, b, a-\sqrt{b}$ are all positive.

Point out an important use of this formula.

Solve the following equations

$$(\alpha)\ \frac{3(x-1)}{x^2-10x+9}-\frac{3(x-1)}{x^2-6x+5}=4;$$

$$(\beta)\ \frac{1}{x+\sqrt{(x^2+2)}+\sqrt{(x^2+1)}}+\frac{1}{x+\sqrt{(x^2+2)}-\sqrt{(x^2+1)}}=1.$$

15. Find the sum of the Arithmetical Progression whose p^{th} term is P and whose q^{th} term is Q.

Sum the series

$$(2.3-1^2)+(3.4-2^2)+(4.5-3^2)+\ldots \text{ to } n \text{ terms.}$$

Find the sum of the squares of all the positive integers less than nm, which are not multiples of m, m and n being positive integers.

16. Give a geometrical proof of the formula $\cos(A+B)=\cos A\cos B-\sin A\sin C$; and deduce from it the formula $\sin(A+B)=\sin A\cos B+\cos A\sin B$.

Shew that $\dfrac{\cos B+\sin A}{\cos A-\sin B}=\dfrac{1+\tan\frac{1}{2}(A+B)}{1-\tan\frac{1}{2}(A+B)}$;

and that, if $A+B+C=0$, then

$$\sin(B+C)+\sin(C+A)+\sin(A+B)=4\sin\tfrac{1}{2}A\sin\tfrac{1}{2}B\sin\tfrac{1}{2}C.$$

17. Prove that, if R be the radius of the circumcircle, and Δ the area of the triangle ABC, then

$$\frac{\sin A}{a}=\frac{\sin B}{b}=\frac{\sin C}{c}=\frac{1}{2R}=\frac{2\Delta}{abc}.$$

ACB is a triangle which is right-angled at C. D and E are the points of trisection of the base AB, so that $AD=DE=EB$. AD, DE, EB subtend angles x, y, z respectively at C: calculate $\sin x$, $\sin y$, $\sin z$ in terms of a and b. Hence, or otherwise, shew that $\sin y=3\sin x\sin z$.

ENGLISH.

FIRST PAPER.

Monday, 20th October 1890.—1 *to* 2 *o'clock.*

Write an essay on *either* of the following subjects, attending to expression and pointing, as well as matter:—

The Historical Novel.

Oral Tradition.

SECOND PAPER.

Monday, 20th October 1890.—2 *to* 4 *o'clock.*

1. Express the meaning of the following passage as clearly as you can in your own words :—

Old warder of these buried bones,
And answering now my random stroke
With fruitful cloud and living smoke,
Dark yew, that graspest at the stones

And dippest toward the dreamless head,
To thee too comes the golden hour
When flower is feeling after flower ;
But Sorrow—fixt upon the dead,

And darkening the dark graves of men,—
What whisper'd from her lying lips ?
Thy gloom is kindled at the tips,
And passes into gloom again.

2. Give the derivations of any *twelve* of the following, taking *six* from each section—

(*a*) Rubric ; pasquil ; kickshaws ; indenture ; husband ; malingerer ; archives ; bankrupt ; clerk.

(*b*) Chestnut ; bohemian ; turkey ; Canterbury ; Beachy Head ; tabby-cat ; hackney-coach ; Inveresk ; Grampound.

3. (*a*) Give some account of any English poem or prose-book you have recently read ;

or,

(*b*) Identify the place of as many as you can of the following :— Jonathan Oldbuck, Pecksniff, Tito Melema, Miss Kilmansegg, Le Balafré, Uncle Toby, Friar Tuck, Petruchio, Sancho Panza, Belinda, Biron, Abbot Samson.

4. Give a general analysis of the following passage, and parse the words in italics :—

Besides, now *that* we look on the matter from some distance, the efforts of a thousand coadjutors and disciples, nay a *series* of mighty political vicissitudes, in the production of which these efforts had but a subsidiary share, have *all* come, naturally in such a case, to appear as if exclusively his work ; so that he rises before us as the paragon and epitome of a whole spiritual period, now almost *passed* away, yet remarkable in itself, and more than ever interesting to us, who seem to stand, as it were, on the confines of a new and better *one*.

5. Explain these terms: Anomalous Verb; Double Comparative; Complement of the Predicate; Case; Metonymy; Misrelated Participle; Permutation of Consonants; Middle English.

6. Note the words of *foreign* origin in the following passage, and give an *English* synonym where possible:—

"E'en so sat Sigurd the Volsung till the night waxed moonless and grey,
Till the chill dawn spread o'er the lowland, and the purple fells grew clear
In the cloudless summer dawn-dusk, and the sun was drawing anear:
Then reddened the Burg of the Niblungs, and the walls of the ancient folk,
And a wind came down from the mountains, and the living things awoke
And cried out for need and rejoicing; till, lo, the rim of the sun
Showed over the eastern ridges, and the new day was begun;
And the beams rose higher and higher, and white grew the Niblung wall,
And the spears on the ramparts glistered, and the windows blazed withal."

7. Transcribe the following passage in Modern English:—

O tyme he cam to his smyþþe · alone him to fonde,
Riȝt as þe sonne wende adoun · riȝt as he womman were,
& spac wiþ him of his worc · wiþ [a] laȝinge chere,
& seide þat heo hadde wiþ him · gret worc to done;
Treoflinge heo smot her & þer · in anoþer tale sone.
Þat holi man hadde gret wonder · þat heo was, & þere
He sat longe & biþoȝte him · longe hou hit were.
He biþoȝte him ho hit was · he droȝ forþ his tonge,
& leide in þe hote fur · & spac faire longe,
Forte þe tonge was al afure · & siþþe, stille ynouȝ,
Þe deuel he hente bi þe nose · & wel faste drouȝ;
He tuengde & schok hire bi þe nose · þat þe fur out-blaste;
Þe deuel wrickede her & þer · & he huld euere faste.

8. (*a.*) Examine the metres of the following lines, giving the prosodic name or the metrical formula of each?—

(*i.*) And the lilies look large as the trees.
(*ii.*) It is a place where poets crowned may feel the heart's decaying.
(*iii.*) Flank to flank are the three steeds gone.
(*iv.*) Ne makede him a spiced conscience.
(*v.*) Where the bee sucks there suck I.
(*vi.*) Childe Waters in his stable stood and stroakt his milke white steede.

(*b.*) Arrange the following passage in proper blank verse form, without changing a word or the order of the words :—

> We often walk in open sun, and see beneath our feet the mist of autumn gather from your lake, and shroud the tower ; and once we only saw your gilded vane, a light above the mist'—(our old bright bird that still is veering there above his four gold letters), 'and the light,' she said, 'was like that light,'—and there she paused, and long.

JOHN WELSH MATHEMATICAL BURSARIES AND GEORGE HERIOT BURSARIES.

Tuesday, 21st October 1890.—9 *to* 12 *o'clock.*

PURE GEOMETRY.

(*Any reasonable question regarding the use of technical terms will be answered by the superintendent of the examination.*)

1. To construct a rhombus such that two of its sides shall lie in a pair of given parallel straight lines, and that the other sides shall pass through two given points, one of which lies in one of the given parallel straight lines.

2. If the base a of a triangle is given, and the ratio ρ of the other two sides ($c=\rho b$, where $\rho<1$), then the greatest possible value of the median drawn to the base is $a(1+\rho)/2(1-\rho)$, and the least possible value is $a(1-\rho)/2(1+\rho)$.

3. $ABCD$ is a rhombus of which the vertices A and B are fixed. Shew that the locus of the centre of a circle that passes through D and touches AC at the point A is a straight line.

4. The radical axes of three circles, taken in pairs, are concurrent.

If P is any point within a quadrilateral $ABCD$, shew that in general a one-fold infinity of systems of four circles can be constructed, which shall have the points A, B, C, D as centres, and the point P as a common radical centre.

To draw through two points a circle which shall intercept a given chord on a given straight line.

5. What is meant by the cross (anharmonic) ratio of a pencil of four rays ?

Show how to construct a harmonic pencil each of whose rays shall pass through one of four given points.

Discuss the determinateness of this problem ; and consider the special cases, (1) when three of the four points are collinear, (2) when all the four points are collinear.

6. Define the inverse of a given curve.

The inverse of a straight line is a circle passing through the centre of inversion.

Invert the theorem that the angle is a given segment of a circle is constant.

7. Find the locus of the centre of a circle that cuts two given circles orthogonally.

The circles described on one of the direct and on one of the transverse common tangents to two circles intersect on the central axis of the two circles.

8. Given three points ABC; to construct three circles with centres A, B, C, such that each shall intersect the other two orthogonally.

Shew that the radical centre of the three circles is the ortho-centre of the triangle ABC.

Calculate the radii of the three circles in terms of the sides of the triangle ABC.

9. If a diameter PV of a parabola meet the parabola in P, and QV be an ordinate to this diameter, and F the focus of the parabola, then $QV^2 = 4FP.PV$.

To construct a parabola when the focus, a tangent, and a point on the parabola are given.

10. Find the locus of the foot of the perpendicular from a focus of an ellipse to a variable tangent.

A is a fixed point within a circle; P a variable point on the circumference. If Q divide AP in a constant ratio, shew that the perpendicular to AP through the point Q will always touch a fixed ellipse.

11. Shew that a straight line may always be drawn perpendicular to each of two given straight lines in space.

Given three straight lines A, B, C in space, shew that a straight line may be drawn to meet each of these three lines and such that the part intercepted by A and B shall be bisected by C.

12. The volume of a sphere is two-thirds of that of the circumscribing cylinder.

Find the volume of the sphere that can be inscribed in a right circular cone, of which the altitude is one foot and the radius of the base is also one foot.

EXAMINATION PAPERS FOR DEGREE OF M.A. IN 1890-91.

PASS EXAMINATION.

A.—DEPARTMENT OF CLASSICAL LITERATURE.

LATIN.

Tuesday, 14*th October* 1890.—9 *to* 11 *o'clock.*

I. Translate into Latin :—

The admiral had scarcely despatched this letter, when he received one from the leaders of the rebels, written several days previously. In this they not merely vindicated themselves from the charge of rebellion,

but claimed great merit, as having dissuaded their followers from a resolution to kill the Adelantado in revenge of his oppressions, prevailing upon them to await patiently for redress from the admiral. A month had elapsed since his arrival, during which they had waited anxiously for his orders, but he had manifested nothing but irritation against them. Considerations of honour and safety, therefore, obliged them to withdraw from his service, and they accordingly demanded their discharge. This letter was dated from Bonao, the 17th of October.

II. Translate into English :—

Dicunt enim, quum cenaret Cranone in Thessalia Simonides apud Scopam fortunatum hominem et nobilem cecinissetque id carmen, quod in eum scripsisset, in quo multa ornandi causa poetarum more in Castorem scripta et Pollucem fuissent, nimis illum sordide Simonidi dixisse se dimidium eius ei, quod pactus esset, pro illo carmine daturum ; reliquum a suis Tyndaridis, quos aeque laudasset, peteret, si ei videretur. Paullo post esse ferunt nuntiatum Simonidi, ut prodiret: iuvenes stare ad ianuam duo quosdam, qui eum magno opere evocarent ; surrexisse illum, prodisse, vidisse neminem. Hoc interim spatio conclave illud, ubi epularetur Scopas, concidisse ; ea ruina ipsum cum cognatis suis oppressum interisse.

Tuesday, 14*th October* 1890.—11.30 *to* 1.30 *o'clock.*

I. Translate :—

(1) Horace, *Odes*, iv. 12, ll. 9-28, *from* "Dicunt, in tenero gramine," *to* "Dulce est desipere in loco."

(2) Virgil, *Eclogues*, v. ll. 67-80, *from* "Pocula bina," *to* "damnabis tu quoque votis."

(3) Cicero, *Philippics*, ii. § 86, *from* "At etiam misericordiam captabas," *to* "iure interfectum esse qui abiecerit ?"

(4) Tacitus, *Annals*, xiv. 52, *from* "Hi variis criminationibus," *to* "majoribus suis."

II. Translate *four* of the following, with short notes on the words italicized :—

(1) Denique non omnes eadem mirantur amantque :
Carmine tu gaudes ; hic delectatur iambis ;
Ille *Bioneis sermonibus*, et *sale nigro.*

(2) Nil intentatum nostri liquere poetae :
Nec minimum meruere decus vestigia Graeca
Ausi deserere, et celebrare domestica facta,
Vel qui *praetextas*, vel qui docuere *togatas.*

(3) Tardaque, *Eleusinae matris* volventia plaustra,
Tribulaque, traheaeque, et iniquo pondere rastri ;
Virgea praeterea Celei vilisque supellex,
Arbuteae crates ; et *mystica vannus Iacchi.*

(4) O ubi campi,
Sperchensque, et, *virginibus bacchata Lacaenis*,
Taygeta! o, qui me gelidis in vallibus *Haemi*
Sistat, et ingenti ramorum protegat umbra!

(5) Duo tamen tempora inciderunt, quibus aliquid contra Caesarem Pompeio suaserim. Ea velim reprehendas, si potes: unum *ne quinquennii imperium Caesari prorogaret:* alterum, *ne pateretur ferri ut absentis eius ratio haberetur.*

(6) Nam *antea* subitariis gradibus et scena in tempus structa ludos edi solitos: vel, si vetustiora repetas, stantem populum spectavisse, ne, si consideret, theatro dies totos ignavia continuaret.

III. Answer any *three* of the following questions:—

(1) Arrange the various works of Horace in chronological order, assigning, if you can, an approximate date to each.
(2) Discuss Horace's criticisms of the Latin comic dramatists.
(3) Write a brief life of Virgil.
(4) "Ter depugnavit Caesar cum civibus" (Cicero, *Phil.*, ii. 75). Describe shortly the campaigns here indicated.
(5) Sketch briefly the political career of Antonius.
(6) Describe the relations between Rome and Britain during the reign of Nero.

Monday, 6th April 1891.—9 *to* 11 *o'clock.*

I. Translate into Latin:—

Those who think that a prince who has the reputation of wisdom, may owe it not to his own natural parts, but to the good counsellors he has about him, are certainly mistaken. For it is a general and never-failing rule that a prince who is not prudent himself can never be prudently advised; unless by chance he puts himself wholly under the management of a single person, who has great sagacity. In this case he may indeed be well governed, but cannot reign long; for that governor will in a short time set up for himself, and turn him out. If such a prince employs more counsellors than one, their counsels will be divided, and the prince has not parts enough to unite them; each of those counsellors will be biassed by his own private interest, and the prince will not be able to correct or even to discover this error. Nor is it possible for him to find others that are less interested; for men will always be wicked, unless you lay them under a necessity to be virtuous. MACHIAVELLI.

II. Translate:—

Carthagini cum prima collatio pecuniae diutino bello exhaustis difficilis videretur maestitiaque et fletus in curia esset, ridentem Hannibalem ferunt conspectum. Cuius cum Hasdrubal Haedus risum increparet in publico fletu, cum ipse lacrimarum causa esset, "si quem ad modum oris habitus cernitur oculis," inquit "sic et animus intus

cerni posset, facile vobis appareret, non laeti, sed prope amentis malis cordis hunc, quem increpitas, risum esse. Qui tamen nequaquam adeo est intempestivus quam vestrae istae absurdae atque abhorrentes lacrimae sunt. Tunc flesse decuit, cum adempta sunt nobis arma, incensae naves, interdictum externis bellis, illo enim vulnere concidimus. Quam vereor, ne prope diem sentiatis levissimo in malo vos hodie lacrimasse." Haec Hannibal apud Carthaginienses.

Monday, 6th April 1891.—11.30 *to* 1.30 *o'clock.*

I. Translate :—

(1) Horace, *Odes* iii. 13, *from* "O fons Bandusiae," *to* "Lymphae desiliunt tuae."

Scan the first verse of this ode.

(2) Virgil, *Georgics*, i. 103-117, *from* "Quid dicam," *to* "sudant humore lacunae."

(3) Cicero, *Phil.*, ii. 35, *from* "Quod si te in iudicium," *to* "subvenire potuisset."

(4) Tacitus, *Annals*, xiv. 14, *from* "Vetus illi cupido erat," *to* "maioribus eorum tribuendum puto."

II. Translate, with short notes on the words italicised :—

(1) Adspice, Plautus
Quo pacto partes tutetur amantis ephebi,
Ut patris attenti, lenonis ut insidiosi ;
Quantus sit *Dossennus* edacibus in parasitis,
Quam *non adstricto percurrat pulpita socco.*

(2) *Versibus impariter junctis* querimonia primum,
Post etiam inclusa est *voti sententia compos.*

(3) Salve magna parens frugum, *Saturnia tellus*,
Magna virum ; tibi res antiquae laudis et artis
Ingredior, sanctos ausus recludere fontes,
Ascraeumque cano Romana per oppida *carmen.*

(4) In eius igitur viri copias cum se subito ingurgitasset, exsultabat gaudio *persona de mimo* "modo egens repente dives." Sed, ut est apud *poetam nescio quem*, "male parta, male dilabuntur."

(5) Quippe *oppidana* lascivia *in vicem* incessentes probra, dein saxa, postremo ferrum *sumpsere.*

III. Answer any *three* of the following questions :—

(1) Describe and account for the influence exercised by the Equestrian Order at Rome during the last century of the Republic.

(2) Give some account of the historical events which the fourth book of Horace's Odes were intended to commemorate.

(3) How far did Augustus deserve the praises lavished on him by Virgil and Horace ?

(4) Describe the position of parties at Rome between the death of Julius Caesar and the battle of Mutina.
(5) Show how the Princeps combined in his own person the powers of the various republican magistracies.
(6) Discuss the position and influence of the Senate in Nero's reign.
(7) Write a short life of Cicero.

GREEK.

Wednesday, 15*th October* 1890.—11.30 *to* 1.30 *o'clock.*

I. (1) Translate :—
Homer, *Odyssey*, iv. 354-367, *from* "νῆσος ἔπειτά τις ἔστι," *to* "νόσφιν ἑταίρων."
Scan the first and the last line. Write a note on the word ἔρρειν.
(2) Give the meaning of the following words in Homer, illustrating them, where you can, from *Odyssey* iv.:—ὑπερφίαλος, οὖλος, νεμεσσᾶσθαι, λιπαρῶς, εἴσκειν.

II. (1) Translate :—
(i) Aeschylus, *Agamemnon*, ll. 1269-1283, *from* "ἰδοὺ δ' Ἀπόλλων," *to* "θριγκώσων φίλοις."
You are at liberty in this passage to adopt any other reading and punctuation which you can justify.
(ii) Aeschylus, *Agamemnon*, ll. 385-395, *from* "βιᾶται δ' ἁ τάλαινα," *to* "ἄφερτον ἐνθείς."
(2) Write notes on the words :—προτέλεια, ἀγγάρου πυρός, ἐπινέμεσθαι, συντελής, αὐθέντης.

III. (1) Translate :—
Demosthenes, *De Corona*, § 176, *from* "Μυρία τοίνυν," *to* "τάξιν πολιτεύεσθαι."
(2) Translate with short notes :—
(i) οὐ δ' ἐγὼ μὲν ἀθῷος ἅπασι, τοῖς νόμοις, τῷ χρόνῳ, τῇ προθεσμίᾳ.
(ii) πρὶν ἐκείνην χρηματίσαι καὶ προβουλεῦσαι πᾶς ὁ δῆμος ἄνω καθῆτο.
(iii) παραλαμβάνειν γε ἅμα τῇ βακτηρίᾳ καὶ τῷ συμβόλῳ τὸ φρόνημα τὸ τῆς πολέως.

IV. Answer any *three* of the following questions :—
(1) Into what chief periods may Greek Literature be divided? Give dates, and note the literary characteristics of each period.
(2) What different forms of monarchy are met with in Greek History from the age of Homer to the Macedonian supremacy? In what respects was a "tyranny" distinct from these?

(3) What do you know of the ἀοιδοί and the ῥαψῳδοί? What means were taken by the Greeks at different times to perpetuate the true text of Homer?
(4) Point out any difficulties in the dramatic structure and plot of the *Agamemnon*.
(5) Give some account of the financial position and resources of Athens in the age of Demosthenes.
(6) Describe the causes, course, and results of the Social War.
(7) Πολλῶν προαιρεσέων οὐσῶν τῆς πολιτείας, τὴν περὶ τὰς Ἑλληνικὰς πράξεις εἱλόμην ἐγώ. Explain this passage, and illustrate it by reference to the life of Demosthenes.

Wednesday, 15th October 1890.—2.30 *to* 4.30 *o'clock.*

I. Translate :—

ὡς δὲ ἤκουσε τοὺς πολεμίους ταράττεσθαι διὰ τὸ αἰτιᾶσθαι ἀλλήλους τοῦ γεγενημένου, εὐθὺς ἦγεν ἐπὶ Σάρδεις. κἀκεῖ ἅμα μὲν ἔκαιε καὶ ἐπόρθει τὰ περὶ τὸ ἄστυ, ἅμα δὲ καὶ κηρύγματι ἐδήλου τοὺς μὲν ἐλευθερίας δεομένους ὡς πρὸς σύμμαχον αὐτὸν παρεῖναι· εἰ δέ τινες τὴν Ἀσίαν ἑαυτῶν ποιοῦνται, πρὸς τοὺς ἐλευθεροῦντας διακρινουμένους ἐν ὅπλοις παρεῖναι. ἐπεὶ μέντοι οὐδεὶς ἀντεξῄει, ἀδεῶς δὴ τὸ ἀπὸ τούτου ἐστρατεύετο, τοὺς μὲν πρόσθεν προσκυνεῖν Ἕλληνας ἀναγκαζομένους ὁρῶν τίμωμένους ὑφ' ὧν ὑβρίζοντο, τοὺς δ' ἀξιοῦντας καὶ τὰς τῶν θεῶν τιμὰς καρποῦσθαι, τούτους ποιήσας μηδ' ἀντιβλέπειν τοῖς Ἕλλησι δύνασθαι, καὶ τὴν μὲν τῶν φίλων χώραν ἀδῄωτον παρέχων, τὴν δὲ τῶν πολεμίων οὕτω καρπούμενος ὥστε ἐν δυοῖν ἐτοῖν πλέον τῶν ἑκατὸν ταλάντων τῷ θεῷ ἐν Δελφοῖς δεκάτην ἀποθῦσαι.

II. Translate into Greek :—

Gentlemen, replied the princess, if you had given any attention to my words, you might have observed that I had no other intention in what I have done than to recover my brothers; therefore, if you have received any benefit, you owe me no obligation, and I can claim nothing but your politeness, for which I return you my thanks. In other respects, I consider each of you individually as free as you were before your misfortunes, and I rejoice with you at the happiness which has accrued to you by my means. Let us, however, stay no longer in a place where we have nothing to detain us, but mount our horses and return to our respective homes.

Tuesday, 7th April 1890.—11.30 *to* 1.30 *o'clock.*

I. (1) Translate :—

Homer, *Odyssey*, iv. 594-608, *from* "'Ατρείδη, μὴ δή," *to* "'Ιθάκη δέ τε καὶ περὶ πασέων."

Scan the last two lines.

(2) Translate, and explain the construction of :—

μὴ μνηστεύσαντες μηδ' ἄλλοθ' ὁμιλήσαντες
ὕστατα καὶ πύματα νῦν ἐνθάδε δειπνήσειαν.

(3) Write brief notes on the meaning of the following words and phrases :—

ἐπηετανός, τίπτε δέ σε χρειώ, νέποδες, οὐλοχύται, παρὰ κληῖδος ἱμάντα.

II. (1) Translate :—

(i) Aesch., *Agamemnon*, 810-826, *from* "*πρῶτον μὲν Ἄργος,*" *to* "*Ἀργεῖον δάκος.*"

Write notes on the construction of *φθοράς* and *χειρός*.

Scan the fourth line. Where is the caesura in this verse?

(ii) Aesch., *Agamemnon*, 227-236, *from* "*λιτὰς δὲ καὶ,*" *to* "*φθόγγον ἀραῖον οἴκοις.*"

(2) Illustrate the uses of the words :—*ἐξεικάζω, ἐκμαρτυρεῖν, αἰχμή, παλίγκοτος, παρασκοπεῖν, ἀπανθίζω, ἰάπτειν.*

III. (1) Translate :—

(i) Demosthenes, *De Corona*, 107-108, *from* "*Ἀρά γε μικρὰ βοηθῆσαι,*" *to* "*ἅπαντα ταῦτα ἐγίγνετο.*"

(ii) Demosthenes, *De Corona*, 227-229, *from* "*Εἶτα σοφίζεται,*" *to* "*ὑπολήψεως περὶ ἑκάτερον.*"

Write a note on *καθαιρῶσιν*, and on *ἡμᾶς ὑπάρχειν ἐγνωσμένους*.

(2) Explain *δίκη, γραφή, εἰσαγγελία, προθεσμία, δοκιμασία, ῥήτρα, ἀναφορά, ἀλάστωρ, προπίνειν, πρόσχημα*.

IV. Answer any *three* of the following questions :—

(1) What can be gathered from *Odyssey* iv. as to Homer's knowledge of geography?

(2) Compare Homeric and Attic syntax with reference to (*a*) the use of the Article; (*b*) the use of the Subjunctive in principal clauses.

(3) What may be inferred from the *Agamemnon* as to the theology of Aeschylus? What light is thrown on it by other plays?

(4) Trace briefly the growth of the maritime supremacy of Athens.

(5) Describe the relations between Greece and Persia during the years 401—334 B.C.

(6) What was the Amphictyonic Council? Illustrate its influence at different periods of Greek history. What was the origin of the Sacred War (356 B.C.)?

(7.) Give the date of the speech *On the Crown*. What were the legal points at issue in the trial? Indicate marks of artistic arrangement in the structure of the speech.

(8) Illustrate the policy of Demosthenes from the following speeches: —*The First Philippic; On the Peace; On the Crown*.

Tuesday, 7th April 1891.—2.30 *to* 4.30 *o'clock*.

I. Translate :—

Ἐκ τούτου δὴ ᾤχοντο ἐπὶ τὰς σκηνὰς καὶ ἅμα ἀπιόντες διελέγοντο πρὸς ἀλλήλους ὡς μνημονικῶς ὁ Κῦρος ὁπόσοις συνέταττε πᾶσιν ὀνομάζων ἐνετέλλετο. ὁ δὲ Κῦρος ἐπιμελείᾳ τοῦτο ἐποίει· πάνυ γὰρ αὐτῷ ἐδόκει θαυμαστὸν εἶναι εἰ οἱ μὲν βάναυσοι ἴσασι τῆς ἑαυτοῦ τέχνης ἕκαστος τῶν ἐργαλείων τὰ ὀνόματα, καὶ ὁ ἰατρὸς δὲ οἶδε καὶ τῶν ὀργάνων καὶ τῶν

φαρμάκων οἷς χρῆται πάντων τὰ ὀνόματα, ὁ δὲ στρατηγὸς οὕτως ἠλίθιος ἔσοιτο ὥστε οὐκ εἴσοιτο τῶν ὑφ' ἑαυτῷ ἡγεμόνων τὰ ὀνόματα, οἷς ἀνάγκη ἐστὶν αὐτῷ ὀργάνοις χρῆσθαι καὶ ὅταν καταλαβεῖν τι βούληται καὶ ὅταν φυλάξαι καὶ ὅταν θαρρῦναι καὶ ὅταν φοβῆσαι· καὶ τιμῆσαι δὲ ὁπότε τινὰ βούλοιτο, πρέπον αὐτῷ ἐδόκει εἶναι ὀνομαστὶ προσαγορεύειν. ἐδόκουν δ' αὐτῷ οἱ γιγνώσκεσθαι δοκοῦντες ὑπὸ τοῦ ἄρχοντος καὶ τοῦ καλόν τι ποιοῦντες ὁρᾶσθαι μᾶλλον ὀρέγεσθαι καὶ τοῦ αἰσχρόν τι ποιεῖν μᾶλλον προθυμεῖσθαι ἀπέχεσθαι.

βάνανσος = an artisan.

II. Translate into Greek :—

I was very thankful in my thoughts that I was so happy as not to be thereabouts at that time, or that they did not see my boat (πλοιάριον), by which they would have concluded that some inhabitants had been in the place, and perhaps have searched farther for me. These terrible thoughts racked my mind about their having found my boat, and that there were people here; and that if so, I should certainly have them come again in greater numbers and devour me; that if it should happen so that they should not find me, yet they would find my inclosure (σηκός), destroy all my corn, carry away all my goats, and I should perish at last for mere want. DEFOE.

B.—DEPARTMENT OF PHILOSOPHY.

LOGIC AND PSYCHOLOGY.

Thursday, 16th October 1890.—9 *to* 12 *o'clock.*

1. Distinguish between the logical "proposition" and the grammatical "sentence": also between the logical proposition and the *rhetorical* assertion of a truth. How, in logic, do you deal with sentences embodying prohibitions or commands? In what case has a universal proposition (*A* or *E*) no contradictory?

2. Enumerate the various inferences (giving the technical name of each) that may be drawn from each of the following propositions :—

(1) The course of true love never did run smooth.
(2) That praise is worth nothing of which the price is known.
(3) Beware of dogs.
(4) It is not usual for people to part willingly with valuable property.
(5) Not one amongst us, save yourself, but says
He us'd us scornfully.

3. Argue the question of the function and value of the Syllogism, making special reference to the doctrine of J. S. Mill.

4. Give formal expression to the argument underlying Mark Antony's innuendo, "Yet Brutus says he was ambitious; And Brutus is an honourable man." What logical fancy may this argument be regarded as exemplifying?

5. What is the relation between classification and definition? Enumerate the laws or canons of classification. Point out the special difficulties that the Natural History Sciences encounter in connexion with classification, and the devices whereby these are in measure surmounted.

6. What is the difference between a "fallacy" and a "paralogism"? Classify fallacies. State distinctly the grounds on which the classification rests. Give some historical account of the treatment of fallacies as a branch of logic.

7. Is Psychology a *science?* Shape your answer so as (1) to bring out what is strictly necessary to constitute a science, (2) to meet the leading objections against the validity of the psychological method.

8. Define Sensation, Intuition, Idea, Thought. Explain the nature and conditions of Memory.

9. State the marks by which Perception is distinguished from Imagination. Examine Berkeley's account of them.

10. What was Locke's exact aim in his *Essay Concerning Human Understanding?* State Locke's precise attitude towards the doctrine of the Association of Ideas. Give some historical account of the doctrine itself.

Wednesday, 8th April 1891.—9 *to* 12 *o'clock.*

1. Explain the logical doctrine of the Quantification of the Predicate; and point out clearly its merits and its defects. Has it by rights a place in Formal Logic?

2. What is the practical value of Opposition as a mode of inference? What gives to Contradictory opposition its distinctive importance in the eye of the logician? Draw the legitimate oppositional inference from each of the propositions—(1) "It is absurd to say that men are always deceivers, but (2) equally absurd to deny that they sometimes deceive." Give the contrary and the contradictory of "The defendant struck the plaintiff."

3. Defend the Syllogism against the charge of being a *petitio principii.* Put the following into full syllogistic form, and mark mood and figure:—"The potato is erroneously classed among roots, for it has axillary buds in the form of appressed scales, usually known as 'eyes.'"

4. Point out, and name, the fallacy in each of these arguments:—

(1) The interest of society is the sole foundation of property and justice, for property is dependant on civil laws.

(2) Such and such a book of the Old Testament must have been written in the time of Moses, for there are Egyptian words in it, and Egyptianisms appear in Hebrew about the time of the Exodus.

5. "We cannot prove a negative; we cannot infer from the absence of a word in all or any of the derivative languages that such a word did not exist in the parent-speech." Use this dictum of the philologist as

a text for an exposition, according to the principles of Inductive Logic, of (*a*) the validity, and (*b*) the dangers, of arguing from a negative. Accompany your remarks with appropriate examples and illustrations.

6. What is the logical doctrine of Hypothesis? What is meant by "a working hypothesis," and what is necessary to give it scientific and logical value? Exemplify.

7. Of the three constituents of Mind, feeling alone is regarded by some psychologists as primordial. Explain this doctrine, and examine.

8. Enumerate the various steps in the formation of Concepts, and explain the difference between mental images and concepts. Distinguish Realism from Nominalism, and discuss the question in dispute.

9. "Consciousness of space of three dimensions." Shew how this is generated (1) by touch, (2) by sight; and point out clearly in what respects vision excels touch in yielding said consciousness.

10. State clearly Locke's purpose in writing the *Essay Concerning Human Understanding*, and examine his account of the origin of Knowledge. In what respects did Berkeley modify and improve on Locke?

MORAL PHILOSOPHY.

Friday, 17th October 1890.—9 *to* 12 *o'clock.*

1. Define Personality. "Personality is the basis of Moral activity." Explain this, and show its bearing (1) on Rational Theism, (2) on Green's doctrine of Universal Self-consciousness.

2. Discuss the question as to whether Personality can be fully accounted for by development from Sensation.

3. Define the following Ethical terms:—Action, rectitude, approbation, merit, obligation. Explain what is meant by the *aesthetic* side of morality, and give examples.

4. "Utility made compulsory is the standard of morality." Whose view is this? Explain and examine.

5. Classify Natural Wants, and draw out clearly the distinctions between the various groups or classes. Upon what grounds do we distinguish wants as *higher* and *lower?*

6. What is the evidence that man's moral nature is disordered? How was this fact of disorder treated by the leading ancient Greek philosophers.

7. Define Metaphysic, and show clearly its method. How do you meet modern *Scientific* objections to metaphysical speculation?

8. Give an analysis and critical estimate of Pantheism, with special reference to Spinoza.

9. Compare Plato's ethical teaching with Aristotle's. Trace the influence of Plato on Philosophy down to the time of Plotinus.

10. Give some account, with relevant criticism, (1) of Adam Smith's Moral theory, (2) of Hartley's Philosophy.

Thursday, 9th April 1891.—9 *to* 12 *o'clock.*

1. Distinguish between Duty and Virtue. What is meant by saying that Pleasure is the *intrinsic reward* of virtue? Is the position that maintains the existence of this intrinsic reward necessarily a selfish one? Support your answer by historical references to ethical systems. In what sense is it true that virtue has "intrinsic reward"?

2. Argue the question whether, in moral judgment, oneself or others be the object first judged.

3. Give a distinct account of Butler's definition and doctrine of Conscience, and indicate its Theistic bearings. How can it be harmonized with such statements as these:—"Reasonable self-love and conscience are the chief or superior principles in the nature of man," "Consideration of the future sanctions of religion is our only security for persevering in our duty, in cases of great temptations"?

4. Examine ethically the following:—"I can understand no feeling but that of admiration towards the man who, for no other motive than the simple love of mankind, gives his days and nights for weary years to their service."

5. Take any one of the forms of Utilitarianism, and, after clearly stating it, examine it (1) psychologically, (2) metaphysically, (3) ethically.

6. Are Impulse and Reflection the only springs of action in man? Explain and Exemplify. Define "Moral Freedom" and "Moral Motive," and shew how the former is compatible with "Moral Habit."

7. "To thine own self be true; And it must follow as the night the day, Thou canst not then be false to any man." How so? Explain fully.

8. Give some account of the philosophical writings of Cicero. What is Stoicism? To what sources mainly do we owe our knowledge of it? Indicate points of Stoical teaching that bear affinity to Christian doctrine, and indicate points that are entirely opposed to Christianity.

9. What are the merits and the defects of Adam Smith's Theory of Moral Sentiments? What is the place and importance of Hartley in Ethical Philosophy?

10. Give an Ethical handling of Pessimism.

RHETORIC AND ENGLISH LITERATURE.

FIRST PAPER.

Friday, 17th October 1890.—1 *to* 2 *o'clock.*

Write an Essay on either of the following subjects:—

Shakespeare's character of Julius Cæsar.

Wordsworth's Theory of the use and functions of Verse.

SECOND PAPER.

Friday, 17*th October* 1890.—2 *to* 4 *o'clock.*

1. Either (*A*) Enumerate the qualities of style severally discussed in the Lectures, briefly defining each; or (*B*) Characterize briefly the prose-style of each of the following writers: Jeremy Taylor, Dryden, Swift, Addison, Gibbon, Burke.

2. Either (*A*) Name the Dialects of English in the fourteenth century, mentioning a grammatical test by which they may be distinguished; or (*B*) Sketch the history of the Latin element in the English Language.

3. What events in the Fifteenth Century are specially connected with the Revival of Learning in Europe? Describe fully any one of them.

4. Either (*A*) Give the evidence for regarding *The Tempest* as one of Shakespeare's latest works, if not his very latest; or (*B*) Explain the following lines in *Paradise Lost*, and comment upon their general significance in the scheme of that Epic:—

"As far removed from God and light of Heaven
As from the centre thrice to the utmost pole."

5. What is meant by the doctrine of the *three unities* in Dramatic Poetry? Estimate, by reference to examples, the amount of its influence on the English Drama before and after the Restoration.

6. Give Johnson's characterization of the Metaphysical Poets, illustrating it by references to Cowley's *Pindaric Odes;* and add some comment on Johnson's use of the term "metaphysical" in this connexion.

7. Annotate as many as you can of the following:—

(1) "The phoenix Truth did on it rest,
And built his perfum'd nest."

(2) "And if to measure age's span,
The sober Julian were th' account of man,
While you live by the fleet Gregorian."

(3) "To fetch dew from the still-vex'd Bermoothes."

(4) "Bring a corollary,
Rather than want a spirit: appear, and pertly."

(5) "Mountaineers
Dew-lapp'd like bulls."

(6) "Stand you directly in Antonius' way
When he doth run his course."

(7) "And turn pre-ordinance and first decree
Into the law of children."

(8) "Or who with Saturn old
Fled over Adria to the Hesperian fields,
And o'er the Celtic roamed the utmost Isles."

(9) "Him round
A globe of fiery Seraphim enclosed."

(10) "Sometimes 5 Imprimaturs are seen together dialogue-wise in the Piatza of one Title page."
(11) "The chief of learned men reputed in this land, Mr Selden."
(12) "*The punishing of wits enhaunces their autority*, saith the Vicount St Albans."

8. The first of the following is a piece of blank verse printed as prose; the others are lines from English poems. Arrange No. 1 in its proper form of blank verse, without changing a word or the order of the words; and give the prosodic name and the metrical formula of each of the others:—

(1) He it was that taught my soul to soar above the promptings of mean and selfish vengeance; gave my youth a name that shall not die, but shall outlive the carnage of this battle: future records shall tell that even this field had not been lost had all men fought like him.
(2) Ere the bloom of that valley shall fade from my heart.
(3) Thy name shall be mingled with mine.
(4) Chains or freedom, death or life.
(5) Mourn not for *her*, the young Bride of the Vale.
(6) For never two so like did living creature see.
(7) Where the dying night-lamp flickers, and the shadows rise and fall.
(8) Twining the Paphian myrtle or leaf of Parnassian laurel.

Thursday, 9th April 1891.—1 *to* 2 *o'clock.*

FIRST PAPER.

Write an Essay on *either* of the following subjects:—
The Character and Function of Ariel in *The Tempest.*
Mark Antony's Speech over the dead body of Caesar.

Thursday, 9th April 1891.—2 *to* 4 *o'clock.*

SECOND PAPER.

1. Enumerate, with brief definition where necessary, the qualities of style severally discussed in the Lectures; and give a more particular abstract of the suggestions made under the head of "Good Taste."

2. Make out a Table exhibiting (1) the division of the Indo-European Family of Languages into its main stocks, (2) the subdivision of the stock to which English belongs, (3) the nearest cognates of English within that sub-division.

3. Name as many as you can of the persons in Chaucer's "Company at the Tabard"; and describe any two of them more particularly, with quotation if you can.

4. Make out (1) a list of six of the more important *poets* in England between Chaucer and Spenser, appending a note of description to each

name, (2) a list of ten of the more important *poems and prose-writings* by Scottish authors through the same period, appending the names of the authors.

5. Either (*A*) Enumerate the various translations of the Bible into English, giving dates, and briefly characterizing each; or (*B*) Describe the phases through which the Drama passed in England before the appearance of the Regular Elizabethan Drama, and add the titles, the names of the authors, and some brief description of the plays now reputed to have been the first specimens of the Regular Elizabethan Drama in its three several forms.

6. Either (*A*) Specify the directions in which Spenser's influence may be traced in later English poetry, including an answer to the question how far it is true that Milton was the poetical son of Spenser; or (*B*) Give some account of the literary life of Cowley, and of Dr Johnson's view of the peculiarities of the school of poets of which Cowley is a representative.

7. Either (*A*) Comment on the significance of Milton's *Areopagitica* in its connexion with the conditions of English Literature and the state of the English publishing-trade between 1640 and 1660; or (*B*) Give a summary of the debate in the "great consult" of the Fallen Angels as described in Book ii. of *Paradise Lost*, naming the several speakers; or (*C*) Explain, by indicating the context or otherwise, as many as you can of the following phrases and allusions:—

(1) "She as far surpasseth Sycorax
As great'st does least."

(2) "I will discase me, and myself present
As I was sometime Milan."

(3) "He had a fever when he was in Spain;
And, when the fit was on him, I did mark
How he did shake."

(4) "But this same day
Must end that work the ides of March begun."

(5) "Or who with Saturn old
Fled over Adria to the Hesperian fields,
And o'er the Celtic roamed the utmost Isles."

(6) "This pendent World, in bigness as a star
Of smallest magnitude close by the moon."

(7) "A lordly *imprimatur*, one from Lambeth house, another from the west end of Paul's."

(8) "There be who perpetually complain of schisms and sects."

(9) "Excepting the *Nocturnal Reverie* of Lady Winchilsea and a passage or two in the *Windsor Forest* of Pope, the poetry of the period intervening between the publication of the *Paradise Lost* and the *Seasons* does not contain a single new image of external nature."

(10) "Out of the three last has been constructed a composite order, of which Young's *Night Thoughts* and Cowper's *Task* are excellent examples."

8. No. 1 of the following is a piece of blank verse printed as prose; the others are lines from English poems. Arrange No. 1 in its proper blank-verse form, without changing a word or the order of the words; and give the metrical formula and the prosodic name of each of the others :—

(1) A wild meteor danced in the moss, and led our feet astray from the right path; and, if I gave more credence to the old tales of goblins, I would swear that some malicious demon of this waste had been our guide; for to the very moat we passed two hours since did the flickering gleam entice us back; and then it disappeared just at the draw-bridge.
(2) Moments so sweet again ne'er shalt thou number.
(3) Night-crow, raven, bat, and owl.
(4) To the march and the muster, the line and the charge.
(5) Alike the Armada's pride or spoils of Trafalgar.
(6) Farewell to Mackenzie, high chief of Kintail.
(7) On from island unto island at the gateways of the day.
(8) Ruled that whatever exists should hold its tenure for ever.

C.—DEPARTMENT OF MATHEMATICS AND PHYSICS.

MATHEMATICS.

Tuesday, 14*th October* 1890.—2.30 *to* 4.30 *o'clock.*

1. Any two sides of a triangle are together greater than the third side.

Find a point on a given straight line, such that the sum of its distances from two given points on the same side of the line shall be the least possible.

2. Find the locus of the points which are equidistant from two given straight lines.

Shew that there are four points, and no more, which are equidistant from the three sides of a triangle; and shew how to construct the triangle when any three of these four points are given.

3. Give a construction for converting any plane polygon into a triangle of equal area.

Shew how to bisect a quadrilateral by a straight line drawn through a vertex.

4. The sum of the squares on two sides of a triangle is equal to twice the square on half the base together with twice the square on the median to the base.

PR, QS are the lines joining the middle points of the opposite sides of a quadrilateral $ABCD$; shew that

$$AB^2+CD^2+2PR^2=AD^2+BC^2+2QS^2.$$

5. The angles in the same segment of a circle are equal.

If perpendiculars be drawn from the point of intersection of the diagonals to the sides of a cyclic quadrilateral, the quadrilateral formed

by joining their feet is such that a circle can be inscribed in it, whose centre is the intersection of the diagonals.

6. State, and prove, the fundamental property of the axis of Equipollence (Radical axis) of two circles: and deduce the property of the centre of Equipollence (Radical centre).

Shew how to construct a circle which shall touch a given straight line at a given point, and which shall pass through another given point. How would you modify your solution if the given straight line were replaced by a given circle?

7. Give Euclid's definition of similar figures; and shew from it that, if two similar figures are placed so that their homologous sides are parallel, the lines joining the pairs of homologous vertices are concurrent.

Describe the drawing instrument called the "Pantagraph"; prove its fundamental property; and explain its use.

8. If the vertical angle of a triangle be bisected by a straight line which also cuts the base, the internal segments of the base shall have to one another the same ratio as the other sides of the triangle have.

If the internal bisector of the angle A of a triangle ABC meet the base BC in D, and DE parallel to AB meet AC in E, shew that AE is half the harmonic mean between AB and AC.

9. If a transversal cut the sides, or the sides produced, of a triangle, the product of three alternate segments taken cyclically is equal to the product of the other three, and conversely.

The bisector of any exterior angle of a triangle, and the bisectors of the two interior and opposite angles meet the opposite sides in points which are collinear.

10. Shew that any transversal is always cut in the same ratio by a series of parallel planes.

A plane is parallel to one of the edges of a cube and bisects all the edges which it meets; find the ratio in which it divides the volume of the cube.

Or, as an alternative. Prove the theorem regarding the quadrature of a parabolic segment.

Find an expression for the area of a right parabolic segment in terms of its altitude.

11. In a central conic, if Y is the foot of the perpendicular from the focus on the tangent at any point, H the image of the focus in the tangent, the loci of Y, H are circles.

Given one focus of a conic inscribed in a triangle, find the other focus, and the points of contact.

12. Find an expression for all angles which have a given sine.

Shew that $\sin 3\alpha = 3\sin\alpha - 4\sin^3\alpha$; and that

$$\operatorname{cosec}\alpha + \operatorname{cosec}\left(\frac{\pi}{3} - \alpha\right) - \operatorname{cosec}\left(\frac{\pi}{3} + \alpha\right) = 3\operatorname{cosec} 3\alpha.$$

Eliminate r and θ from the equations

$$x = r\cos(\alpha - \theta),\ y = r\sin(\alpha - \theta),\ r\sin(\alpha + \theta) = a.$$

Wednesday, 15th October 1890.—9 *to* 11 *o'clock.*

1. Explain the relation between the coefficients in the expansions in powers of x of $(1+x)^{n-1}$ and $(1+x)^n$.

Find the coefficient of x^4 in $(1+x)^7$ and of x^3 in $\left(x+\frac{1}{x}\right)^7$.

Shew that $(bcx+cay+abz-xyz)^2+(yza+zxb+xyc-abc)^2$
$=(x^2+a^2)(y^2+b^2)(z^2+c^2)$.

2. Find the quotient and the remainder when
$x^4+px^3+qx^2+rx+s$ is divided by $x-\alpha$.

Factorise the following integral functions

(α) $55x^2-146x+55$;
(β) $x^2-2(m+n)x+2(m^2+n^2)$;
(γ) $(y-z)^3+(z-x)^3+(x-y)^3$.

3. Define a fraction, and shew that its value is unaltered when its numerator and denominator are multiplied by the same quantity.

Simplify the fractions

(α) $$\frac{x^2(y+1)-xy-1}{x^2(y-1)-x(y-2)-1};$$

(β) $$\frac{(x-a)^3}{(a-b)(a-c)}+\frac{(x-b)^3}{(b-c)(b-a)}+\frac{(x-c)^3}{(c-a)(c-b)}.$$

4. If m and n be positive integers, shew that $x^m\times x^n=x^{m+n}$ and explain how $x^{\frac{p}{q}}$ is interpreted, p and q being positive integers.

Simplify as far as possible

(α) $$\frac{1}{\sqrt{3-2\sqrt{2}}}+\frac{1}{\sqrt{3+2\sqrt{2}}};$$

(β) $$(3-2\sqrt{2})^{\frac{3}{2}}+(3+2\sqrt{2})^{\frac{3}{2}}.$$

5. Shew that if α and β be the roots of the quadratic $x^2+px+q=0$, then $\alpha^n+\beta^n$, when n is a positive integer, can be expressed as an integral function of p and q.

Solve completely the following equations

(α) $(x^3-1)+3(x-1)=0$;
(β) $4x+3y-z=2x+4y+z=x+y+z=2x+3y+4z=1$.

6. Find the condition that the equations $bx+ay=cz$, $cy+bz=ax$, $az+cx=by$ should be satisfied by any simultaneous values of x, y, and z other than zero.

Solve the equations

$$(\alpha)\ \frac{x+a}{x-a}+\frac{x+b}{x-b}+\frac{x+c}{x-c}=3;$$

$$(\beta)\ \frac{xy}{x+y}=1,\ \frac{xz}{x+z}=2,\ \frac{yz}{y+z}=3.$$

7. Shew that the product of two complex numbers is a complex number, whose modulus is the product of the moduli, and whose amplitude is the sum of the amplitudes of the two complex numbers. Deduce De Moivre's Theorem.

If $x=\cos\alpha+i\sin\alpha$, $y=\cos\beta+i\sin\beta$, find the modulus and amplitude of $(x-y)^2$.

Or, as an alternative. Find the equation to the tangent at $(x'y')$ to the curve whose equation is $y^2+4a^2=4ax$.

Find the equation to the locus of the foot of the perpendicular from the point $(2a,0)$ on the tangent to the above curve: and interpret your result.

8. Assuming the sum of the series $1+2+\ldots+n$, deduce the sum of $1^2+2^2+\ldots+n^2$.

Find the series whose sum to n terms is n^3+n^2.

Sum the following series to n terms

$$1.4+2.5+3.6+\ldots;$$
$$(r-r^{-1})^2+(r^2-r^{-2})^2+(r^3-r^{-3})^2+\ldots$$

9. Find the number of permutations of n things taken r at a time, (1) when each thing may be repeated as often as we please, (2) when there is no repetition.

In how many ways can 3 pairs be selected out of 6 things?

10. Investigate a product formulae for expressing $\sin\frac{1}{2}A$, $\cos\frac{1}{2}A$, and $\sin A$ in terms of the sides of a triangle.

Prove that in any triangle

$$\frac{\sin B-\sin C}{\sin A}+\frac{\sin C-\sin A}{\sin B}+\frac{\sin A-\sin B}{\sin C}$$
$$+\frac{\sin\frac{1}{2}(B-C)\sin\frac{1}{2}(C-A)\sin\frac{1}{2}(A-B)}{\sin\frac{1}{2}(B+C)\sin\frac{1}{2}(C+A)\sin\frac{1}{2}(A+B)}=0;$$

and that $II_1=4R\sin\frac{1}{2}A$, where I, I_1, R have the usual meanings.

11. Find a formula for the area of the triangle (x_1, y_1) (x_2, y_2) (x_3, y_3).

Deduce the equation to the straight line passing through the points $(+5,-6)$, $(-3,-5)$.

12. Find the equation to the middle points of all the chords of the conic $x^2/a^2+y^2/b^2-1=0$ which makes an angle θ with the axis of x.

A line of given length moves so that its ends lie on the axis of x and y respectively, find the equation to the curve traced out by a point fixed in the straight line. When is the locus a circle?

Or, as an alternative. Prove Geometrically that the locus of the middle points of a series of parallel chords of a conic is a straight line.

Given two tangents to a parabola and also their points of contact, shew how to construct its focus.

Monday, 6th April 1891.—3 *to* 5 *o'clock.*

1. If two opposite sides of a convex quadrilateral be equal and parallel, the remaining two are also equal and parallel; and the diagonals bisect each other.

Shew that the middle points of the two non-parallel sides of a trapezium and the middle points of its diagonals are collinear.

To construct a trapezium, given the middle points of the diagonals and of one of the parallel sides, and also the length of one of the parallel sides.

2. Straight lines which are equal and parallel have equal projections on any other straight line. State and prove the converse propositions.

If a quadrilateral have the angles at the extremities of one of its diagonals right angles, shew that the projections of the two other vertices upon this diagonal are equally distant from its middle point.

3. The rectangle contained by the sum and difference of two straight lines is equal to the difference of their squares.

$ABCD$ is a rhombus, P a point in AC; shew that $AP.\ PC = AB^2 \sim PB^2$.

4. The sum of the squares on any two sides of a triangle is equal to twice the square on half the base and twice the square on the median to the base.

Find a point on a given straight line such that the sum of the squares of its distances from two given points is the least possible.

5. Shew that if two circles meet in a point which does not lie on the line joining their centres they will meet in another point besides.

Two circles E and F touch at C. AB is a movable chord of given length in E. AC and BC meet F in D and E: find the locus of the middle point of DE.

6. From a given external point draw two tangents to a given circle.

From the same point draw the straight lines upon which the circle intercepts equal segments of a given length less than the diameter.

7. Define similar figures, and shew that triangles which are mutually equiangular are also similar.

If perpendiculars be drawn from the vertices of a quadrilateral upon the diagonals, shew that their feet are the vertices of a similar quadrilateral.

8. Shew that the lines joining the corresponding vertices of two similar and similarly situated figures are concurrent.

PRQ, $P'R'Q'$ are two parallel straight lines meeting two straight

lines OX and OY in P, Q and in P', Q'. If R and R' be the middle points of PQ and $P'Q'$, shew that the ratio of the perpendiculars from R on OX and OY is the same as the ratio of the like perpendiculars from R'.

9. Shew that the volume of an oblique prism is equal to the area of its base multiplied by its altitude.

A cube is inscribed in a sphere of radius a: calculate the volume of the cube and the area of the part of the sphere cut off by one of its faces.

Or, as an alternative,

Shew that the tangents to a conic subtend equal or supplementary angles at a focus.

If P and Q be the points of contact of the tangents from T to the conic, shew that the circle about TPQ cannot pass through the focus unless T lie on one of the axes.

10. Given the focus and directrix of a conic, shew how to find any number of points on the curve.

What is the locus of the centre of a circle which touches, (1) a given straight line and a given circle, (2) two given circles?

11. Define $\tan\theta$, and shew that it has the period π.

Express $\tan\theta$ in terms of $\operatorname{cosec}\theta$, θ being an angle between $\frac{1}{2}\pi$ and π.

Trace roughly the graphs of $\tan x$, and of $\tan x/(1-\tan x)$.

12. Express, in terms of its sides, the area, (Δ), of a triangle and the radii, $(r, r_1, r_2, r_3,)$, of its inscribed and three escribed circles. If $s=\frac{a+b+c}{2}$, shew that $\frac{s^2-r_2r_3}{a}=\frac{s^2-r_1r_3}{b}=\frac{s^2-r_1r_2}{c}$, and hence express a, b, c in terms of r_1, r_2, r_3.

Tuesday, 7th April 1891.—9 *to* 11 *o'clock.*

1. Find the condition that x^2+ax+b may be resolved into two real factors of the first degree in x.

Find the factors of x^2-7x-8 and $(x^2+x)^2+4(x^2+x)-12$.

Investigate the value of the numerical coefficient m that the expression $x^3+y^3+z^3+mxyz$ may have $x+y+z$ as a factor.

2. Shew that the numerator and denominator of a rational fraction may be multiplied or divided by the same quantity without changing its value.

Simplify the following :—

(1) $$\frac{(x+1)^7-x^7-1}{(x+1)^5-x^5-1}.$$

(2) $$\frac{1}{\left(\frac{a}{b}-1\right)\left(\frac{a}{c}-1\right)}+\frac{1}{\left(\frac{b}{a}-1\right)\left(\frac{b}{c}-1\right)}+\frac{1}{\left(\frac{c}{a}-1\right)\left(\frac{c}{b}-1\right)}.$$

3. What is the simplest form to which a rational function of two irrationals $\sqrt{p}$ and $\sqrt{q}$ can be reduced?

Under what circumstances can $\sqrt{(a+\sqrt{b})}$, where a and b are rational, be reduced to the form $\pm\sqrt{p}\pm\sqrt{q}$?

Simplify the following:—

(1) $$\left\{\frac{\sqrt{(x+a)}}{\sqrt{(x^2+ax)}+\sqrt{(x^2-a^2)}}\right\}^2-\left\{\frac{\sqrt{(x-a)}}{\sqrt{(x^2-ax)}-\sqrt{(x^2-a^2)}}\right\}^2.$$

(2) $$(14+6\sqrt{5})^{\frac{3}{2}}+(14-6\sqrt{5})^{-\frac{3}{2}}.$$

4. Shew that the product of two complex numbers is a complex number whose modulus is the product of the moduli, and whose amplitude is the sum of the amplitudes of the two complex numbers. Deduce De Moivre's Theorem.

Find the modulus of $(a-bi)/(a+bi)+(c-di)/(c+di)$.

Simplify $(1-\omega^2+\omega^4)^2+(1+\omega^2+\omega^4)^2$, where ω is an imaginary cube root of 1.

5. Find all the roots of the equation

$$\frac{(x+a)(x+b)}{(x+a)(x+b)}=\frac{(x+c)(x+d)}{(x-c)(x-d)}.$$

Solve the simultaneous equations

$(y+1)(z+1)=63$; $(x+1)(z+1)=45$; $(x+1)(y+1)=35$.

6. Shew how to find the turning value of a quadratic function of x.

Trace the graph of $(x-1)^2/(x-2)(x-3)$, and find its turning value or values.

Solve the following equations

(1) $$\begin{cases}(a+b)\left(\frac{x}{a}+\frac{y}{b}\right)+(a-b)\left(\frac{x}{a}-\frac{y}{b}\right)=a+b,\\ (a-b)\left(\frac{x}{a}+\frac{y}{b}\right)-(a+b)\left(\frac{x}{a}-\frac{y}{b}\right)=a-b.\end{cases}$$

(2) $\sqrt{(x^2-3x+1)}+\sqrt{(2x^2-6x+3)}=5$.

7. Find the sum of the following series

(α) $1+2+3+4+\ldots+n$.

(β) $1^2+2^2+3^2+4^2+\ldots+n^2$.

Find the coefficients of the first three terms in the expansion in ascending powers of x of $(1+x)(1+2x)(1+3x)\ldots\ldots(1+nx)$.

8. Find the sum of a series in geometrical progression.

A person borrows, at four per cent. compound interest, payable annually, a sum of £2000, which he undertakes to repay in ten equal annual instalments, the first being payable three years after the date of the loan. Find the amount of each of the instalments.

9. Prove that $\underset{x=1}{L}(x^m-1)/(x-1)=m$, where m is any real commensurable quantity.

Find the limit of $\{(x^4-x)^2-(x^4-x)(x-1)+(x-1)^2\}/\{(x^4-x)^2+(x^4-x)(x-1)+(x-1^2)\}$ when $x=1$, and when $x=\infty$.

Shew that the series $x/1^2+x^2/2^2+x^3/3^2+x^4/4^2+\ldots$ is convergent, provided the numerical value of x be not greater than 1.

10. Find an expression for all the angles which have a given cosine.

Express cos 3α in terms of cosα, and shew that

$$\sec\alpha+\sec\left(\frac{2\pi}{3}-\alpha\right)+\sec\left(\frac{2\pi}{3}+\alpha\right)=-3\sec 3\alpha.$$

Solve the equation $\tan x\cot 2x=\cot x\tan 2x$.

11. Find the equation to a straight line passing through two given points.

O is the origin of co-ordinates, and the co-ordinates of A,B,C are (0,3), (4,0), (2,5) respectively: find the intercepts on the axes of the line which bisects OC and AB.

12. Give a method for finding the equation to the tangent at any point of a curve of the second degree.

Find the equations to the tangent and normal at any point on the conic $xy=c^2$; and shew that tangent and the axes include a constant area.

Or, as an alternative,

Prove the theorem of Menelaus and its converse.

If D,E,F be the points where the inscribed circle of a triangle ABC touches the sides BC,CA,AB respectively, shew that AD,BE,CF are concurrent.

NATURAL PHILOSOPHY.

Thursday, 16th October 1890.—1 *to* 4 *o'clock.*

[SIX *questions, at most, to be answered from each of A and B.*]

A.

1. Enunciate and prove the proposition called the triangle of velocities.

A point is moving with three simultaneous velocities represented in magnitude and direction by the sides of a triangle, taken two in one order and the third in the opposite order; find the resultant velocity.

2. A particle dropped from a height reaches the ground in 10 seconds. From what height has it fallen, and how far did it fall during the last second?

3. Explain the principle upon which the absolute or kinetic unit of force is measured. Define the "poundal" and the "dyne."

4. Masses of 1 and 2 pounds connected by a light string hang over a pulley as in Attwood's machine. If the inertia of the pulley be neglected, find the acceleration of the system and the tension of the string during the descent of the heavier mass.

5. Two equal uniform ladders, hinged together at one extremity, rest on a smooth plane, and are connected by a rope joining their middle points. Draw a diagram to show the forces acting on the system, and show how to find the tension of the rope.

6. Find the centre of inertia of four masses of 1, 2, 3 and 4 pounds respectively, placed at the corners of a square table.

7. Define simple harmonic motion.

Show how to find the resultant of two simple harmonic motions in one line and of the same period.

8. Find the time of the slowest vibrations of a pianoforte wire weighing 0.002 of a pound per foot, stretched between two points 5 feet apart with a tension of 100 pounds weight.

9. Distinguish between density and specific gravity, and explain how they are proved to be proportional. Explain any system of units in terms of which their numerical values would be identical.

10. Find the pressure on a vertical lock gate, 14 feet broad, against which the water rises 9½ feet. (1 cubic foot of water weighs 62.5 lbs.)

11. Define terrestrial latitude and longitude. Mention any causes which tend to alter the former.

12. Explain what is meant by the "stationary points," and by the "point of greatest elongation," of a planet. Have all planets such points? Illustrate your answer by a diagram.

B.

13. Define Elasticity, and show how it enables us to distinguish between solids and fluids.

Define Young's Modulus, and give instances of its practical application.

14. Explain the nature of Contour Lines, and show by examples the importance of the principle in its application to physical questions.

15. Point out the steps of the process by which the mean density of the earth has been found from the attraction exerted by a mountain.

16. State Boyle's Law in the form of a relation between the pressure and the density of a gas, and describe the apparatus employed for pressures less than an atmosphere. Show how Boyle's statement has been modified by modern experimenters.

17. What is meant by Interference in relation to waves? Point out how it may be employed to determine the lengths of waves of sound, and of light.

18. Describe, and account for, the successive appearances observed when a person looks at his image in a concave mirror and gradually walks up to it.

19. Describe Watt's Diagram of Energy. Show how it may be made to represent quantities of heat:—and employ it to exhibit the change of total energy when a gas is made to pass from one definite condition to another, showing how the mode of passage affects the form in which energy is gained or lost.

20. Define the Specific Heat of a substance, and the Thermal Capacity of a body. A certain stone, heated to 100° C., and dropped into 10 lbs. of water at 0°, raises the temperature of the water by 5°. What effect would it have produced had there been 15 lbs. of water, at a temperature of 30°?

21. Explain the action of a Leyden Jar, defining in relation to it the terms Quantity and Capacity. What fundamental relations exist among the following:—Potential, Quantity, Capacity, Energy?

22. Describe the construction of the original Bell telephone, and explain the physical processes involved in its action.

23. What are the chief grounds on which we believe that Light is an electro-magnetic phenomenon?

24. Point out the principal reasons for the assertion that bodies, in general, are made up of particles similar and equal to one another:—showing how these reasons are modified by the state of aggregation, *i.e.*, as gas, liquid, or solid.

[*Candidates for the Neil-Arnott Prize will take the following questions, in addition to not more than ten of the preceding.*]

α. State the physical principles which are applied in finding the rate of propagation of disturbance in a nerve.

β. When a soap-bubble floats on carbonic acid gas, it swells and bursts. Give a full explanation of the reason.

γ. Describe the mode in which a stream of water, issuing from a small hole in the bottom of a vessel, ultimately breaks into drops. How can the process be observed?

δ. What is known as to the direct action of magnetism on the human body?

ε. State, and give reasons for, a mode of drawing pictures for a stereoscope.

Wednesday, April 8th, 1891.—1 *to* 4 *o'clock.*

A.

1. Give instances of effects due to force, to momentum, and to energy. Whence the advantage, other things being the same, of *hardness* in a hammer and in the head of a nail?

2. Investigate how the range of a projectile (in vacuo) depends upon (1) the elevation (2) the speed of projection.

3. A slab is lying on a plane inclined at 30° to the horizon, and the coefficient of friction is $\frac{1}{2}$. Find the least force which will pull the slab upwards.

4. Explain why a spinning-top does not fall over when its axis is inclined to the vertical.

5. Rings, of different radii, made of the same chain, are made to rotate rapidly in a horizontal plane. Shew that all will snap at one common linear speed.

6. A stone, thrown vertically upwards, reaches 200 feet one second after reaching 100 feet of elevation. What was its initial speed?

7. What is the physical basis of the measurement of time; and how is the conventional unit determined?

8. Define the rigidity of a solid, and shew how it can be determined by measurements of torsion.

9. Explain the distinction between waves and ripples, and between Rollers and long waves.

10. State the physical basis of the process of finding specific gravity by weighing in air and in water. How is its truth established?

11. State, roughly, the greatest and least meridian altitudes of the moon, as seen from Edinburgh. If the range were less than it is, what would be the effect on the number of eclipses?

12. How can we ascertain the dimensions of the orbit, and the entire mass, of a double star?

B.

1. What is meant by the universality of gravitation? Give some of the facts on which the idea is based.

Describe and explain phenomena which shew (1) that a surface tension exists in liquids, (2) that the surface tension is different in different liquids.

Investigate a formula for the rise of a liquid in a capillary tube.

3. Explain, by means of a diagram, the formation of "beats" when two musical instruments are sounding nearly the same note. How is the period of the beats related to the periods of the notes?

4. Shew that a closed organ-pipe can only sound the uneven harmonies of its fundamental note. How does this fact effect the "quality" of its notes?

5. Trace the course of a ray of light which falls, in a direction perpendicular to the axis, upon a cylinder of glass, and is once reflected inside the glass. Explain, in connection with this, the formation of the Rainbow.

6. What is the nature of the incandescent body which gives, (1) a continuous spectrum, (2) a spectrum of bright lines, (3) a bright spectrum with dark lines. Give reasons for your answers.

7. Define the specific heat of a solid or liquid.

Two equal iron balls are heated to the same temperature. One of them is placed in a mass of water, and raises its temperature from 10°

C. to 15° C. Immediately after, the second ball is placed in the liquid (without removing the first), and the temperature of the balls and liquid becomes ultimately 19°·95 C. If no loss of heat has occurred, find the initial temperature of the balls.

8. Enunciate the first and second Laws of Thermodynamics, and shew how the latter gives an absolute method of measuring temperature.

9. State Boyle's Law.

Draw on a Watt's diagram the isothermals, (1) of a gas which obeys this law, (2) of a vapour which exists along with its liquid in the same space.

10. Explain the nature of the earth's magnetic force. Define the magnetic meridian. Shew that a magnetic needle placed at right angles to this meridian points vertically downwards.

11. Define the terms *charge*, *capacity*, and *potential* in static electricity. Express the energy of the charge in terms of any two of them.

12. State Ohm's Law.

Two points *A* and *B*, whose difference of potential is 2 volts, are connected by three wires in multiple arc. The resistances of the wires are respectively 3, 5, and 9 ohms. What is the resistance between *A* and *B*, and what is the current in each of the wires?

EXAMINATIONS IN ARTS FOR HONOURS.

A.—DEPARTMENT OF CLASSICAL LITERATURE.

LATIN.

Friday, 10*th April* 1891.—9 *to* 12 *o'clock.*

I. For Latin prose :—

No nobler figure ever stood in the forefront of a nation's life. Washington was grave and courteous in address; his manners were simple and unpretending; his silence and the serene calmness of his temper spoke of a perfect self-mastery; but there was little in his outer bearing to reveal the grandeur of soul which lifts his figure, with all the simple majesty of an ancient statue, out of the smaller passions, the meaner impulses of the world around him. What recommended him for command as yet was simply his weight among his fellow-landowners of Virginia, and the experience which he had gained by service in Braddock's luckless expedition against Fort Duquesne. It was only as the weary fight went on that the colonists learned little by little the greatness of their leader, his clear judgment, his heroic endurance, his silence under difficulties, his calmness in the hour of danger or defeat, the patience with which he waited, the quickness and hardness with which he struck, the lofty and serene sense of duty that never swerved from its task through resentment or jealousy, that never, through war

or peace, felt the touch of a meaner ambition, that knew no aim save that of guarding the freedom of his fellow-countrymen, and no personal longing save that of returning to his own fireside when their freedom was secured. It was almost unconsciously that men learnt to cling to Washington with a trust and faith such as few other men have won, and to regard him with a reverence which still hushes us in presence of his memory. J. R. GREEN.

II. For Translation :—

The Music of the Spheres.

Quae cum intuerer stupens, ut me recepi, "quid? hic" inquam "quis est qui conplet auris meas tantus et tam dulcis sonus?" "Hic est" inquit "ille, qui intervallis disiunctus inparibus, sed tamen pro rata parte ratione distinctis, impulsu et motu ipsorum orbium efficitur et acuta cum gravibus temperans varios aequabiliter concentus efficit; nec enim silentio tanti motus incitari possunt et natura fert ut extrema ex altera parte graviter, ex altera autem acute sonent. Quam ob causam summus ille caeli stellifer cursus, cuius conversio est concitatior, acuto et excitato movetur sono, gravissimo autem hic lunaris atque infimus: nam terra nona inmobilis manens una sede semper haeret, conplexa medium mundi locum. Illi autem octo cursus, in quibus eadem vis est duorum, septem efficiunt distinctos intervallis sonos, qui numerus rerum omnium fere nodus est, quod docti homines nervis imitati atque cantibus aperuerunt sibi reditum in hunc locum, sicut alii, qui praestantibus ingeniis in vita humana divina studia coluerunt. Hoc sonitu oppletae aures hominum obsurduerunt; nec est ullus hebetior sensus in vobis, sicut, ubi Nilus ad illa, quae Catadupa nominantur, praecipitatur ex altissimis montibus, ea gens, quae illum locum adcolit, propter magnitudinem sonitus sensu audiendi caret. Hic vero tantus est totius mundi incitatissima conversione sonitus, ut eum aures hominum capere non possint, sicut intueri solem adversum nequitis eiusque radiis acies vestra sensusque vincitur." Haec ego admirans referebam tamen oculos ad terram identidem. CICERO: *De Republica*, vi. 18-19.

Friday, 10*th April* 1891.—1 *to* 4 *o'clock.*

Translate, with very short notes where necessary :—

(1) Lucretius, i. 960-983, *from* "Nunc extra summam," *to* "prolatet copia semper."

(2) Virgil, *Georgics*, iv. 228-250, *from* "Si quando sedem angustam," *to* "floribus horrea texent."

(3) Horace, *Satires*, i. x. 16-35, *from* "Illi scripta quibus," *to* "malis inplere catervas."

(4) Tibullus, ii. 1, 1-30, *from* "Quisquis adest, faveat:" *to* "male ferre pedes."

(5) Cicero, *Ad Familiares*, viii. 3, *from* "Estne? vici?" *to* "ut versetur inter manus, habeat."

(6) Tacitus, *Annals*, vi. 22, *from* "Sed mihi haec ac talia audienti," *to* "ne nunc incepto longius abierim."

Saturday, 11th April 1891.—9 *to* 12 *o'clock.*

I. Translate and comment on the following :—

(*a*) Isdem ineptiis fucata sunt illa omnia: QUANDO TE IN IURE CONSPICIO, et haec: SED ANNE TU DICIS QUA EX CAUSA VINDICAVERIS? Quae dum erant occulta, necessario ab eis, qui ea tenebant, petebantur: postea vero pervulgata atque in manibus iactata et excussa, inanissima prudentiae reperta sunt, fraudis autem et stultitiae plenissima.

(*b*) Quem non tam admiror, quod meam legem contemnit, hominis inimici, quam quod sic statuit, omnino consularem legem nullam putare. Caeciliam Didiam, Liciniam Iuniam contempsit.

(*c*) Tu autem, Laterensis, quas tribus edidisti? Terentinam, credo. Fuit certe id aequum et certe exspectatum est et fuit dignum constantia tua. Cuius tu tribus venditorem et corruptorem et sequestrem Plancium fuisse clamitas, eam tribum profecto, severissimorum praesertim hominum et gravissimorum, edere debuisti.

(*d*) Itaque perpaucis adversantibus omnia, quae ne per populum quidem sine seditione se adsequi arbitrabantur, per senatum consecuti sunt: nam et stipendium Caesari decretum est et decem legati et ne lege Sempronia succederetur facile perfectum est.

II. Translate and comment on the following :—

(*a*) Indulserat ei ludicro Augustus, dum Maecenati obtemperat, effuso in amorem Bathylli: neque ipse abhorrebat talibus studiis, et civile rebatur, misceri voluptatibus vulgi.

(*b*) Centesimam rerum venalium, post bella civilia institutam, deprecante populo, edixit Tiberius, militare aerarium eo subsidio niti: simul imparem oneri rem publicam, nisi vicesimo militiae anno veterani dimitterentur.

(*c*) Et quia vetere senatusconsulto quaestio in caput domini prohibebatur, callidus et novi iuris repertor, Tiberius, mancipari singulos actori publico iubet: scilicet, ut in Libonem ex servis salvo senatusconsulto quaereretur.

(*d*) Ceterum tempora illa adeo infecta et adulatione sordida fuere, ut non modo primores civitatis, quibus claritudo sua obsequiis protegenda erat, sed omnes consulares, magna pars eorum, qui praetura functi, multique etiam pedarii senatores certatim exsurgerent, foedaque et nimia censerent.

(*e*) Et erat iisdem regionibus Curtius Lupus quaestor, cui provincia, vetere ex more, Cales evenerat.

III. Translate and comment on the following :—

(*a*) Non populi gentesque tremunt, regesque superbi
Corripiunt divum percussi membra timore,
Nequid ob admissum foede dictumve superbe
Poenarum grave sit solvendi tempus adultum?

(*b*) Ipsa tibi blandos fundent cunabula flores,
Occidet et serpens, et fallax herba veneni
Occidet; Assyrium volgo nascetur amomum.

(*c*) Venena magnum fas nefasque non valent
Convertere humanam vicem.
Diris agam vos; dira detestatio
Nulla expiatur victima.

(*d*) "O cives, cives, quaerenda pecunia primum est;
Virtus post nummos! haec Ianus summus ab imo
Prodocet, haec recinunt iuvenes dictata senesque,
Laevo suspensi loculos tabulamque lacerto."

IV. Answer *five* of the following questions:—

(1) Describe the leading features of the Sullan Constitution. How far were its effects permanent?

(2) What was the political significance of the *Pro Sestio?*

(3) Discuss the attitude of the Roman State towards religion (*a*) during the later years of the Republic, (*b*) under Augustus and Tiberius.

(4) Upon what countries was Rome dependent for her corn supply? Give some account of the means taken at various times to secure that it should be adequate.

(5) Compare the judicial system of the Ciceronian age with that of the early Principate?

(6) Give a detailed account of the campaigns of 49 and 48 B.C. Illustrate, if you can, by a sketch-map.

(7) What light do the first six books of the *Annals* throw upon the condition of the various *civitates* under the early Principate?

(8) What data have we for a critical estimate of Roman tragedy?

(9) Illustrate from your reading the estimation in which philosophers were held by the Romans at different periods.

(10) In what does the originality of (*a*) Lucretius, (*b*) Virgil consist?

(11) Sketch the history of Romon Satire, with special reference to Horace.

(12) Trace the development of the Latin hexameter.

GREEK.

Saturday, 11*th April* 1891.—1 *to* 4 *p.m.*

Translate, with very short notes where necessary:—

1. Homer, *Iliad* xv. 674-695, *from* "Οὐδ' ἄρ' ἔτ' Αἴαντι," *to* "ὤτρυνε δὲ λαὸν ἅμ' αὐτῷ."

2. Pindar, *Pyth.* viii. 73-92, *from* "εἰ γάρ τις ἐσλὰ πέπαται," *to* "κρέσσονα πλούτου μέριμναν."

3. Thucydides, v. 105, *from* "Τῆς μὲν τοίνυν πρὸς τὸ θεῖον εὐμενείας," *to* "ἡ τοιαύτη διάνοια."

4. Plato, *Gorgias*, 512D, *from* "ἀλλ', ὦ μακάριε," *to* "ταύτης τῆς δυνάμεως τῆς ἐν τῇ πόλει."

Write grammatical notes upon *ἐατέον ἐστί—νῦν δὲ ἄρα δεῖ κ.τ.λ.—πεισόμεθα—σὺν τοῖς φιλτάτοις.*

5. Aristotle, *Poetics*, p. 1456 a-b, *from* "*τὰ μὲν οὖν περὶ τὴν διάνοιαν,*" *to* "*τοῦ τὴν τοιαύτην ἔχοντος ἀρχιτεκτονικήν.*"

Explain *διάνοια* as here used.

Unseen Passage.

[*The speaker is Apollodorus, son of Pasion the banker. The matter in dispute is a sum of money which was deposited in the bank by Lycon during the lifetime of Pasion.*]

6. Translate :—

"Οτι μὲν οὐ προκαλεσάμενος εἰς ὅρκον τὸν πατέρα τότε νυνὶ ἐκείνου τετελευτηκότος καταψεύδεται, καὶ κατ' ἐμοῦ ῥᾳδίως τὰ ψευδῆ μαρτυροῦντας τοὺς οἰκείους τοὺς ἑαυτοῦ παρέχεται, ἔκ τε τῶν τεκμηρίων καὶ ἐκ τῆς μαρτυρίας ταύτης ῥᾴδιον ὑμῖν εἰδέναι. ὅτι δὲ ἐγὼ ὑπὲρ τοῦ πατρὸς ἠθέλησα αὐτῷ πίστιν δοῦναι ἥνπερ ὁ νόμος κελεύει, ἐάν τις τεθνεῶτι ἐπικαλῶν δικάζηται τῷ κληρονόμῳ, μὴ δοκεῖν μοι μήτε ὁμολογῆσαι τὸν πατέρα τούτῳ ἀποδώσειν τὸ ἀργύριον ὃ κατέλιπε Λύκων, μήτε συσταθῆναι αὐτὸν τῷ πατρὶ ὑπὸ τοῦ Λύκωνος, καὶ Φορμίων, ἢ μὴν διαλογίσασθαί τε ἐναντίον Ἀρχεβιάδου τῷ Λύκωνι αὐτὸς καὶ προσταχθῆναι αὐτῷ Κηφισιάδῃ ἀποδοῦναι τὸ ἀργύριον, τὸν δὲ Κηφισιάδην δεῖξαι αὐτῷ τὸν Ἀρχεβιάδην, καὶ ὅτε Κάλλιππος προσῆλθε τὸ πρῶτον πρὸς τὴν τράπεζαν, λέγων ὅτι τετελευτηκὼς εἴη ὁ Λύκων καὶ αὐτὸς ἀξιοίη τὰ γράμματα ἰδεῖν, εἴ τι καταλελοιπὼς εἴη ὁ ξένος ἀργύριον, ἢ μὴν δείξαντος ἑαυτοῦ εὐθὺς αὐτῷ τὰ γράμματα, ἰδόντα αὐτὸν τῷ Κηφισιάδῃ γεγραμμένον ἀποδοῦναι, σιωπῇ οἴχεσθαι ἀπιόντα, οὐδὲν οὔτε ἀμφισβητήσαντα οὔτ' ἀπειπόντ' αὐτὸν περὶ τοῦ ἀργυρίου, τούτων ὑμῖν τάς τε μαρτυρίας ἀμφοτέρας καὶ τὸν νόμον ἀναγνώσεται.—DEMOSTH. *πρὸς Κάλλιππον* (lii.) § 17-19.

Monday, 13th April 1891.—9 *to* 12 *o'clock.*

1. For Greek Prose :—

There is one thing, however, which I cannot pass over in silence. I am guilty, it seems, of being old ; and it is also proved upon me that I have lost my hand ! As if I had the power to arrest the progress of time ; and that this maim was the effect of some tavern brawl, and not received on the noblest occasion that past or present times have witnessed, or the future can ever hope to see ! If my wounds be disregarded by those who simply look on them, they will be honoured by those who know how they were gained ; for a soldier makes a nobler figure dead in the field of battle than alive, flying from his enemy ; and so firmly fixed am I in this opinion that, could the impossibility be overcome, and I had the power to choose, I would rather be again present in that stupendous action than whole and sound, without sharing in its glory. The scars on the front of a brave soldier are stars that direct others to the haven of honour, and create in them a noble emulation. Let it be remembered, too, that books are not composed by the

hand, but by the understanding, which is ripened by experience and length of years.—CERVANTES.

2. For Translation :—

εἰ μεν χρήματ' ἔχοιμι, Σιμωνίδη, οἷά περ ᾔδειν,
οὐκ ἂν ἀνιῴμην τοῖς ἀγαθοῖσι συνών·
νῦν δέ με γιγνώσκοντα παρέρχεται· εἰμὶ δ' ἄφωνος
χρημοσύνῃ, πολλῶν γνούς περ ἄμεινον ἔτι.
οὕνεκα νῦν φερόμεσθα καθ' ἱστία λευκὰ βαλόντες
Μηλίου ἐκ πόντου, νύκτα διὰ δνοφερήν·
ἀντλεῖν δ' οὐκ ἐθέλουσιν, ὑπερβάλλει δὲ θάλασσα
ἀμφοτέρων τοίχων, ᾗ μάλα τις χαλεπῶς
σώζεται· οἱ δ' εὖδουσι· κυβερνήτην μὲν ἔπαυσαν
ἐσθλόν γ', ὃς φυλακὴν εἶχεν ἐπισταμένως·
χρήματα δ' ἁρπάζουσι βίῃ, κόσμος δ' ἀπόλωλε,
δασμὸς δ' οὐκ ἔτ' ἴσως γίγνεται εἰς τὸ μέσον.
φορτηγοὶ δ' ἄρχουσι, κακοὶ δ' ἀγαθῶν καθύπερθε·
δειμαίνω, μή πως ναῦν κατὰ κῦμα πίῃ.
ταῦτά μοι ᾐνίχθω κεκρυμμένα τοῖς ἀγαθοῖσι·
γιγνώσκοι δ' ἄν τις καὶ κακος, ἂν σοφὸς ᾖ.

THEOGNIS : *Sententiae*, 667-682.

Monday, 13*th April* 1891.—1 *to* 4 *o'.lock.*

I. 1. Translate and comment briefly on :—

(*a*) πολλοὶ δ' ἐν τάφρῳ ἐρυσάρματες ὠκέες ἵπποι
ἄξαντ' ἐν πρώτῳ ῥυμῷ λίπον ἅρματ' ἀνάκτων.

(*b*) οὐκ ἂν δή μοι ἅμαξαν ἐφοπλίσσαιτε τάχιστα,
ταῦτά τε πάντ' ἐπιθεῖτε, ἵνα πρήσσωμεν ὁδοῖο ;

(*c*) αἶψά τε φυλόπιδος πέλεται κόρος ἀνθρώποισιν·
ἧς τε πλείστην μὲν καλάμην χθονὶ χαλκὸς ἔχευεν,
ἄμητος δ' ὀλίγιστος, ἐπὴν κλίνῃσι τάλαντα
Ζεύς, ὅς τ' ἀνθρώπων ταμίης πολέμοιο τέτυκται.

(*d*) οὐ χθόνα ταράσσοντες ἐν χερὸς ἀκμᾷ
οὐδε πόντιον ὕδωρ
κεινὰν παρὰ δίαιταν.

(*e*) εἴην εὐρησιεπὴς ἀναγεῖσθαι
προσφορος ἐν Μοισᾶν δίφρῳ·
τόλμα δὲ καὶ ἀμφιλαφὴς δύναμις
ἔσποιτο.

(*f*) ὅ τ' ἐναγώνιος Ἑρμᾶς αἰγλᾶντα τίθησι κόσμον,
ξεστὸν ὅταν δίφρον
ἕν θ' ἅρματα πεισιχάλινα καταζευγνύῃ
σθένος ἵππιον.

2. Trace the history of the text of the *Iliad* down to the end of the Alexandrian Period.

3. Write grammatical notes on the following Pindaric expressions :—

ὕμνον ἄρχε, καιρὸν εἰ φθέγξαιο, ἀρχῷ δαμασθέντες, Ἀλφεῷ καταβὰς μέσσῳ, ὅσαις δὲ βροτὸν ἔθνος ἀγλαΐαις ἀπτόμεσθα.

Illustrate Pindar's use of mixed metaphors.

II. 1. Translate and comment briefly on :—

(*a*) *περὶ δὲ τῷ σιῷ σύματος, αἴ μὲν λῆν, τοῖς Ἐπιδαυρίοις ὄρκον δόμεν, αἰ δέ, αὐτοὺς ὀμόσαι.*

(*b*) *Καὶ καταλαμβάνουσι τὴν Σαλαμινίαν ναῦν ἐκ τῶν Ἀθηνῶν ἥκουσαν ἐπί τε Ἀλκιβιάδην, ὡς κελεύσοντας ἀποπλεῖν ἐς ἀπολογίαν, ὧν ἡ πόλις ἐνεκάλει, καὶ ἐπ' ἄλλους τινὰς τῶν στρατιωτῶν τῶν μετ' αὐτοῦ, μεμηνυμένων περὶ τῶν μυστηρίων ὡς ἀσεβούντων, τῶν δὲ καὶ περὶ τῶν Ἑρμῶν.*

(*c*) *καὶ τὴν εἰκοστὴν ὑπὸ τοῦτον τὸν χρόνον τῶν κατὰ θάλασσαν ἀντὶ τοῦ φόρου τοῖς ὑπηκόοις ἐποίησαν, πλείω νομίζοντες ἂν σφίσι χρήματα οὕτω προσιέναι.*

(*d*) *τὸ μὲν οὖν ἐπισκοπεῖν εἰ ἄρ' ἔχει ἤδη ἡ τραγῳδία τοῖς εἴδεσιν ἱκανως ἢ οὔ, αὐτό τε καθ' αὐτὸ κρῖναι καὶ πρὸς τὰ θέατρα, ἄλλος λόγος.* MSS. *κρίνεται ἢ ναί.*

(*e*) *ἐπὶ μὲν οὖν τῆς κωμῳδίας ἤδη τοῦτο δῆλον γέγονε. συστήσαντες γὰρ τὸν μῦθον διὰ τῶν εἰκότων οὕτω τὰ τυχόντα ὀνόματα ὑποτιθέασι.*

(*f*) *εἰ οὖν τούτοις τε διαφέρει πᾶσιν καὶ ἔτι τῷ τῆς τέχνης ἔργῳ—δεῖ γὰρ οὐ τὴν τυχοῦσαν ἡδονὴν ποιεῖν αὐτὰς ἀλλὰ τὴν εἰρημένην—φανερὸν ὅτι κρείττων ἂν εἴη μᾶλλον τοῦ τέλους τυγχάνουσα τῆς ἐποποιίας.*

(*g*) *ταῦτα δὴ διατηρεῖν, καὶ πρὸς τούτοις τὰς παρὰ τὰ* [MSS. *τὰς παρὰ τάς*] *ἐξ ἀνάγκης ἀκολουθούσας αἰσθήσεις τῇ ποιητικῇ.*

2. How far can Aristotle's analysis of tragedy be applied to Thucydides' account of the Sicilian expedition?

III. 1. Discuss either (*a*) the vocalic variation in stem-inflexion and its relation to accent, or (*b*) the representation of nasal and liquid sonants in Greek and Latin.

2. Write notes on the derivation and form of the following words :—
πρόχνυ—δεσπότης—ἐπίβδαι—ἔχεσφι—ἴφιος—πεῖσμα—χαμαί—φρασί—anser—bos—capso—danunt—exemplum—felix—miles—paricidas—prosper—supremus—vixero—consobrinus—via—ingens.

IV. Answer any *two* of the following :—

(*a*) To what extent can the Homeric poems be accepted as an authentic record of political, ethical, and social conditions?

(*b*) Discuss the impartiality of Thucydides as a historian.

(*c*) How does Socrates in the *Gorgias* prove (1) that it is better to suffer wrong than to do wrong; (2) that pleasure and good are not identical? Briefly criticise the arguments.

(*d*) On what Aristotelian passages do the Unities of Time and Place rest? Examine the meaning of these passages.

V. Answer any *two* of the following :—

(*a*) Draw a sketch-map of Syracuse and its neighbourhood; and point out the chief blunders committed by the Athenians in the course of the siege.

(*b*) Give an account of the Revolution of the Four Hundred at Athens, with special reference to the part played in it by Alcibiades.

(*c*) What do we learn from Aristotle's Ἀθηναίων Πολιτεία of the origin of Ostracism? Describe the uses and abuses of the law, illustrating your answer by any instance of its application during the course of the Peloponnesian War. Why was the system abandoned?

B.—DEPARTMENT OF PHILOSOPHY.

LOGIC, PSYCHOLOGY, AND METAPHYSICS.

FIRST PAPER.

Friday, 10*th April* 1891.—9 *to* 12 *o'clock.*

1. From the proposition, "All that is must be," can you, by any process of immediate inference, get the proposition, "Nothing can be but what is"? Give reasons for your answer. Show, also, by what logical process you can obtain the inference, "Something that is not, is not what must be."

2. Enumerate the writings that go to make up the *Organon* of Aristotle, and give the subject-matter of each. State precisely the nature and extent of Bacon's contributions to Logic in his *Novum Organum*.

3. "In Judgment the true subject is Reality, not an idea." Fully explain and examine this doctrine of Judgment.

4. Examine the following argument on deductive and on inductive principles:—"Without the Greeks and the Celts, Roman Literature could never have existed. With the exception of Lucretius, no great Roman poet was a native of Rome; Vergil and Catullus, the greatest of Rome's poets, were Celts, both in name and in race."

5. What is the full justification of your belief that the sun will rise to-morrow? State and exemplify liabilities to error in observing (1) facts of simple sequence, (2) facts of causal succession.

6. Give the right interpretation of the Aristotelian Enthymeme, with examples. In how many senses may "parity of reasoning" be understood, and which appears to you to be the most correct meaning? What gives validity to Analogical reasoning?

7. Sketch, historically, the treatment of Fallacies in Logic. What logical fallacies are exemplified in Hume's famous argument, in the *Enquiry*, against Miracles:—"A miracle is a violation of the laws of nature; and, as a firm and unalterable experience has established these laws, the proof against a miracle, from the very nature of the fact, is as entire as any argument from experience can possibly be imagined"?

SECOND PAPER.

Friday, 10th April 1891.—1 *to* 4 *o'clock.*

1. What are the special difficulties attaching to Psychology as a science of facts, and how may they be minimized or overcome? Compare and contrast the physicist's treatment of phenomena with the psychologist's.

2. Explain the following psychological facts, and indicate the limitations where necessary:—

(1) That the longer a presentation is obscured, the greater is the difficulty in reproducing it.

(2) That our mental image of a familiar friend is apt to be less vivid and concrete than our image of a person whom we have seen seldom.

(3) That we remember forwards, and not backwards.

(4) That our estimate of Duration is apt to be erroneous when experienced occurrences are connected with pleasure or with pain.

3. Express the Laws of Mental Association—(1) in the current English way, (2) after the German (say Herbartian) fashion; and show which is the preferable form of expression. Can these Laws be legitimately reduced to one? Argue the point. On what ground is it maintained that neither the law of Contrast nor the law of Causality has independent standing? To what extent was the doctrine of Association recognized—(1) by Locke, (2) by Gay, (3) by Hartley?

4. Give a clear and reasoned estimate of Hume's psychology of Belief. What are the bearings of his teaching here on Theism?

5. It is often said, in connexion with Perception, that "nothing is intelligible but relations." Explain and examine this.

6. Show how, according to the Hegelian, Self-realization is the law of our nature, intellectual and moral alike. Indicate the general bearings of the principle involved in the dictum that "Spirit is the truth of nature."

THIRD PAPER.

Saturday, 11th April 1891.—9 *to* 12 *o'clock.*

1. What do you understand by Philosophy? Clearly define Epistemology, and indicate its exact relation to Psychology and to Ontology. Enumerate, also, the main problems with which it is concerned, and point out what parts of the *Ethics* of Spinoza and of the *Essay* of Locke are properly Epistemology.

2. Indicate the various aspects under which the Platonic "Idea" may be regarded, and refer each (so far as you can) to its appropriate Dialogues. What is the exact place of the *Theætetus* of Plato with reference to his other writings? Is it correctly regarded as a *negative* dialogue?

3. Give the substance of the passage in the *Isagoge* of Porphyry that gave rise to the Realist Controversy. Indicate the position taken up in this controversy by each of the following:—Boëthius, Roscellin, William of Champeaux, and William of Ockham. Whence the name *Terminist?*

4. What, in the Cartesian philosophy, is the ultimate guarantee of the Existence of an External world? How is its validity affected (1) by the fact that the senses sometimes err, (2) by the phenomena of dream-sleep?

5. What does Locke mean by the terms "Idea" and "Understanding"? Give an historical account of the various meanings attached to the former of these in the history of philosophy; and point out clearly how far the dispute about Innate Ideas is one of mere defining, and how far it raises a real and important issue.

6. Compare the epistemological and ontological doctrines of Locke and Kant.

7. Explain Philosophical Scepticism. Examine and compare the "refutations" of Hume by Reid and Kant.

MORAL PHILOSOPHY.

FIRST PAPER.

Saturday, 11*th April* 1891.—1 *to* 4 *o'clock.*

Write an Essay, Constructive and Critical (with such limited historical reference as seems necessary), on

AGNOSTICISM.

SECOND PAPER.

Monday, 13*th April* 1891.—9 *to* 12 *o'clock.*

1. Mark off the Province of Ethics from that of Politics, and indicate the relation of Ethics (1) to Psychology, (2) to Metaphysics. At what points, and under what necessities, does Ethics run up into Religion.

2. Discuss fully the question whether Malevolence is an original part of human nature, paying particular regard to the various primordial principles into which it may be plausibly resolved. How does Reid deal with Malevolence, and on what ground?

3. What are the leading difficulties in connexion with the conception and definition of Justice, and how may they be practically surmounted? State the exact relation between Justice and Mercy, and indicate the grounds on which the merciful disposition is regarded as ethically higher than the strictly just disposition.

4. State the Hedonistic Paradox of Egoism as given by Mr Sidgwick, and show whether, as thus expressed, it has basis in fact. Put it in a more accurate form, and show by direct application to mental

experience that, as thus formulated, it is only one example of a principle that is wider than Hedonism.

5. Argue the question of Free Will in connexion with the influence of Motives; and examine the leading historical similes (Leibnitz's, Bayle's, &c.) that have been used to render motived Free Will intelligible. Is there any middle position between Free Will and Determinism? Hume held that the controversy about Free Will is really one of words. What have you to say to this?

6. Draw out the philosophical and ethical truth contained in the three famous figures of Plato,—viz., The Charioteer and his Steeds, the Cave or Den, and the Composite Animal. Interpret the first of these in the light of Plato's classification of the Cardinal Virtues; and examine Hamilton's interpretation of the second.

THIRD PAPER.

Monday, 13th April 1891.—1 *to* 4 *o'clock.*

1. What questions in modern Ethics find their prototype in the *Protagoras* of Plato? Distinguish clearly the Platonic way of handling ethical questions from the Aristotelian, and illustrate from Plato and Aristotle themselves.

2. Give Socrates' views in the *Republic* as to Pessimism. Examine his arguments against the possibility of a Divine incarnation.

"Friend Homer, if you are only in the second remove from truth in what you say of virtue, and not in the third—not an image maker or imitator,—and if you are able to discern what pursuits make men better or worse in private or public life, tell us what State was ever better governed by your help?" Use this passage as a basis for an exposition and critique of Plato's doctrine of the nature and function of Poetry.

3. What, according to Kant, are the definition and province of Moral Philosophy? Examine the doctrine of the "good will." Give Kant's answer to each of the following propositions, and state how far you are satisfied with each:—(1) Virtue is one, (2) Virtue is the observance of the mean between two extremes, (3) Virtue must be learned from experience.

4. What is meant by a system of Natural Jurisprudence? With what questions is such a system mainly occupied? How does Reid meet the position that "Justice is a natural, not an artificial virtue," and with what effect?

5. Give a clear account of Spinoza's Ontology (*plus* Method), as we find it in the *Ethics*, with a reasoned estimate of its value and relevant criticism. Compare and contrast with Hegel's.

6. In what respects, according to Green, do Desire and Knowledge resemble each other? What is the correct doctrine of the Object of Desire, and why? Does Green's Metaphysic of Ethics appear to you defective at any point? Wherein lies Green's strength?

C.—DEPARTMENT OF MATHEMATICS.

MATHEMATICS.

Friday, 10*th April* 1891.—9 *to* 12 *o'clock.*

1. The triangles ABC and $A'B'C'$ are similar and similarly situated; show that the area of any triangle inscribed in the one and circumscribed to the other is the geometric mean between their areas.

2. Establish the properties of a complete quadrilateral.

A transversal cuts the sides of a triangle ABC in the points D, E, F. D' is the harmonic conjugate of D with regard to A and B, and E', F' are points similarly chosen; show that AD', BE', CF', are concurrent.

3. Prove that the equations

$$ax^2+bx+c=0,\ a'x^2+b'x+c=0$$

have each real roots separated by a root of the other, if b^2-4ac and $(bc'-b'c)(ab'-a'b)-(ac'-a'c)^2$ are both positive.

4. Assuming that any number which is prime to n is prime to all numbers composed solely of the same prime factors as n, prove from first principles that, if $\phi(n)$ denote the number of numbers less than n and prime to it,

(1) $\phi(rabc\ \ldots\ .)=r\phi(abc\ \ldots\ .)$,
if a, b, c . . . are primes, and r is composed solely of these primes.

(2) $\phi(r'abc\ \ldots\ .)=r'\phi(abc\ \ldots\ .)-\phi(abc\ \ldots\ .)$,
if r' be another prime distinct from a, b, c . . . .

Deduce that $\phi(n)=n\left(1-\frac{1}{a}\right)\left(1-\frac{1}{b}\right)\left(1-\frac{1}{c}\right)\ \ldots\ .$

5. Find the sum of the series

$$\sin\alpha+\sin(\alpha+\delta)+\sin(\alpha+2\delta)+\ \ldots\ .\ +\sin(\alpha+\overline{n-1}\delta).$$

Show that the sum of the distances of a point on the circle circumscribing a regular polygon of an odd number of sides from the alternate vertices of the polygon is equal to the sum of the distances from the remaining vertices.

6. If the co-ordinates of the centre of a conic inscribed in the triangle of reference be $\bar{x}$, $\bar{y}$, $\bar{z}$, show that the equation of the conic is

$$\sqrt{x(\bar{y}+\bar{z}-\bar{x})}+\sqrt{y(\bar{z}+\bar{x}-\bar{y})}+\sqrt{z(\bar{x}+\bar{y}-\bar{z})}=0,$$

and find the locus of the centre, if the inscribed conic is a rectangular hyperbola.

7. Find the equation of the chord of contact of two tangents to the ellipse $\frac{x^2}{a^2}+\frac{y^2}{b^2}=1$.

Show that the minimum value of the angle at which a normal chord of the ellipse recuts the curve is $\tan^{-1}\frac{ab}{a^2-b^2}$.

8. Show that six normals can be drawn from a given point to a given ellipsoid. Prove that the locus of points on an ellipsoid the normals at which meet the normal at a given point, is a quadric cone, and hence, or otherwise, prove that in any plane section of an ellipsoid there are in general only two chords which are normal to the surface.

9. Find the nth differential coefficient of $\frac{x}{(x-1)(x-2)^2}$ and of $e^{x\cos\alpha}\cos(x\sin\alpha)$.

If $x=e^\theta$, prove that

$$\frac{d}{d\theta}\left(\frac{d}{d\theta}-1\right)\left(\frac{d}{d\theta}-2\right)\ldots\left(\frac{d}{d\theta}-n+1\right)u=x^n\frac{d^nu}{dx^n},$$

where u is any function of x.

Prove also that $\left(\frac{d}{dx}x\frac{d}{dx}\right)^n u=\left(\frac{d}{dx}\right)^n x^n\left(\frac{d}{dx}\right)^n u$.

10. Show that $\int dxF\{x, y\}$, where F is rational, and $y^2=ax^2+2bx+c$, can always be rationalised.

Evaluate $\int\frac{dx}{a+b\cos x+c\sin x}$, $\int\frac{dx}{(a^2+x^2)^{\frac{3}{2}}}$,

$$\int dx\frac{x+\sqrt{x+1}+\sqrt{x+2}}{\sqrt{x+1}+\sqrt{x+2}},\quad \int dx\tan^{-1}\sqrt{\frac{x}{x+1}}.$$

11. Evaluate the integrals

$$\int_0^\pi\frac{dx}{1+k\cos x}, \text{ and } \int_0^\pi\log\left(\frac{1+k\cos x}{\cos x}\right).$$

Trace the curve $x^3+y^3=3axy$, and show that the area of its loop is $\frac{3}{2}a^2$.

12. Prove that $\sin^{2r+1}x$ can be expressed in the form $A_1\sin x+A_3\sin 3x+\ldots.A_{2r+1}\sin(2r+1)x$, and, from the manner in which $\sin^{2r+1}x$ is obtained from $\sin^{2r-1}x$, prove that $A_1+A_3+\ldots.+A_{2r+1}$ is one-half of the co-efficient of $\sin x$ in the similar expression for $\sin^{2r-1}x$.

Evaluate (1) $\int_0^\infty\frac{\sin ax}{x}$, (2) $\int_0^\infty\frac{\sin^{2r+1}x}{x}$.

Friday, 10*th April* 1891.—1 *to* 4 *o'clock.*

1. If we establish a correspondence between points (u,v) and (x,y) in two planes by means of the relation $u+vi=f(x+yi)$, then to any diagram D in the one plane corresponds a diagram D' in the other which is infinitesimally similar.

If $u+vi=\tan(x+yi)$, and (x,y) describe straight lines through the origin and circles concentric with the origin, find the corresponding u- v- curves.

2. Prove Pascal's theorem for any conic section. When five points on a conic are given, shew how to draw a tangent at any one of them.

A,B,P,Q are four points on a conic; A and B are fixed, and the cross ratio of the four points $ABPQ$ is constant. The tangents at P and Q meet the tangents at A and B in S and T respectively: find the envelope of ST.

3. Find the tangential equation of a conic whose trilinear point-equation is given.

Find the envelope of all the parabolae which have a given self-conjugate triad.

Find the envelope of all the chords of an ellipse which are bisected by a given chord.

4. If λ_1, λ_2 be the paremeters of the two confocals to a quadric S which pass through any point P on S, then the axes of the central section of S parallel to the tangent plane at P are parallel to the normals to the two confocals at P, and the squares of their semi-axes are λ_1 and λ_2.

A and B are two coaxial circles whose radii are each equal to a, and the distance between their planes is $2a$. L is a straight line bisecting the axis of the two circles at right angles: find the equation to the surface generated by a straight line which always meets A, B, and L.

5. Define the lines of curvature of a surface, and find an equation for the principal radii of curvature of the surface $z=f(x,y)$.

Shew that the principal radii of curvature of the surface $z=a\tan^{-1}\frac{y}{x}$ are equal and opposite in sign at every point: and find the polar equation to the projections of its lines of curvature on the plane of xy.

6. Investigate criteria for the turning values (of the first order) of the function $f(x,y)$.

A,B,C are three fixed points and L is a fixed straight line: deduce a geometrical construction for the point P on L for which $AP^2+BP^2+CP^2$ is a minimum.

7. Find the necessary and sufficient condition (Jacobi's) that three functions u,v,w of three independent variables be functionally independent. How is the condition modified when there are more than three independent variables?

Transform the differential equation $(x^2-y^2)(r-t)+4xys=0$ by means of the substitution.

$$2\xi=\log\sqrt{(x^2+y^2)}+\tan^{-1}\frac{y}{x},\quad 2\eta=\log\sqrt{(x^2+y^2)}-\tan^{-1}\frac{y}{x}.$$

8. Find the reduction-formula for $\int dx\, x^n/\sqrt{(ax^2-d)}$; and shew by means of it that, if mod $x<1$,

$$\sin^{-1}x=\sqrt{(1-x^2)}\left\{x+\frac{2}{1}\frac{x^3}{3}+\frac{2.4}{1.3}\frac{x^5}{5}+\ldots\ldots\right\}.$$

Reduce $\int dx(x^2+1)/\sqrt{(x^4-x^2+1)}$ to Legendre's Normal Forms.

9. Shew, by employing the formula for change of order of integration in a multiple integral, that

$$\int_{-\infty}^{\infty} dx\, l^{-x^2}=\sqrt{\pi}.$$

Prove that

$$\int F\left\{\left(\frac{x}{a}\right)^{\alpha}+\left(\frac{y}{b}\right)^{\beta}+\left(\frac{z}{c}\right)^{\gamma}\right\}x^{l-1}y^{m-1}z^{n-1}\,dx\,dy\,dz$$

$$=\frac{a^l b^m c^n}{\alpha\beta\gamma}\,\frac{\Gamma\left(\frac{l}{\alpha}\right)\Gamma\left(\frac{m}{\beta}\right)\Gamma\left(\frac{n}{\gamma}\right)}{\Gamma\left(\frac{l}{\alpha}+\frac{m}{\beta}+\frac{n}{\gamma}\right)}\int_0^1 d\xi\, F(\xi)\,\xi^{l/\alpha+m/\beta+n/\gamma-1},$$

the integration being extended over the region bounded by $x=0$, $y=0$, $z=0$, $\Sigma(x/a)^{\alpha}-1=0$.

10. Given that $y=y_1$ is a particular integral of the linear equation $y''+Py'+Qy=0$, find by the method of variation of parameters the complete integral of $y''+Py'+Qy=R$.

Integrate the following :—

(1) $$\frac{dy}{dx}+x^2(y^2-y)+y=0;$$

(2) $$x^2\frac{d^2y}{dx^2}-2x\frac{dy}{dx}+2y=x;$$

(3) $$x^2\frac{d^4y}{dx^4}=2\frac{d^2y}{dx^2}.$$

11. Assuming the solution of Jacobi's homogeneous linear partial differential equation, deduce the solution of the general linear equation.

Apply the dual transformation to solve the equation

$$p^2+q^2-2px-2qy=0.$$

Solve $(p-zx)^2+(q-zy)^2=(x^2+y^2)z^2$.

12. Find the equations to the traces on the plane of xy of the orthogonal trajectories to the generators of the quadric $2cz=x^2-y^2$.

Find a solution of the differential equation $\delta^2y/\delta t^2=a^2\delta^2y/\delta x^2$, which shall hold from $t=0$ to $t=\infty$ and from $x=0$ to $x=l$, with the conditions that, when $t=0$, $\delta y/\delta t=0$, and $y=\mu x$ when $0\geqslant x\leqslant\frac{1}{2}l$, $y=\mu(l-x)$ when $\frac{1}{2}l\geqslant x\leqslant l$, and also that $y=0$ when $x=0$ and when $x=l$, for all values of t.

13. If $\int_r dz\,f(z)$ be taken round a circle of radius r having its centre at the origin of Argand's diagram, shew that

$$L_{r=\infty}\int_r dz\,f(z)=0,$$

provided $L_{z=\infty}zf(z)=0$.

Shew by means of the above theorem that

$$\int_0^\infty dx\cos ax/(1+x^2)=\tfrac{1}{2}\pi e^{-a}.$$

NATURAL PHILOSOPHY.

Saturday, 11th April 1891.—9 *to* 10 *o'clock.*

1. Show that the motion of a plane figure in its plane may be represented by the rolling of one curve on another. Show that, at any instant, the tangents of the paths of all points in the same straight line envelope a parabola.

2. Find, in an elementary manner, the hodograph of a particle moving in an ellipse round a centre of force, (1) in the centre, (2) in the focus.

Prove that the hodograph of a catenary described under the action of a force parallel to the axis is a straight line described with a velocity proportional to that in the catenary.

3. State Hooke's law.

Prove that when a heavy elastic string hangs vertically from one extremity its upper half is lengthened three times as much as its lower half.

4. A ladder rests against a rough vertical wall, the co-efficients of friction of the wall and ground being the same. Determine the weight of the heaviest man who can ascend the ladder without causing it to slip, and state in what circumstances this weight is unlimited.

5. A particle moves in a medium in which the resistance is κ times the velocity, under an attraction to a fixed centre equal to μ times the distance, (where $\mu - \frac{\kappa^2}{4} \equiv n^2$) : the particle is projected from an apse at distance a with velocity V, prove that it moves in a spiral.

6. One end of a uniform chain coiled on a table passes vertically over a smooth pulley, and hangs with its free end just above the floor. Find the subsequent motion as the chain coils itself on to the floor.

7. Prove that the attraction of an infinite plate of uniform surface density ρ on an external particle is $2\pi\rho$. If the plate be divided into two parts by a straight line, and if the particle be distant a from the plate and b from the dividing line, the two components of the normal force due to the parts of the plate are $\rho(\pi \pm 2 \cos^{-1}\frac{a}{b})$.

8. If from a fixed point straight lines be drawn parallel to the tangents to a flexible string, and proportional to the tensions at the various parts of the string; prove that, if s be the arc of the string, σ the corresponding arc of the curve traced out by the extremities of the lines in the tension diagram, $-\frac{d\sigma}{ds}$ is the external force applied to the string per unit length.

Deduce, or otherwise prove, that the intrinsic equation to the catenary is $s = c \tan \phi$.

9. Find the moments of inertia about (1), the axis of a right cone, (2) about any perpendicular axis through its vertex. Find the equations of motion of such a cone rotating with its vertex fixed under no forces.

10. Investigate the equation of energy for a system of particles moving under conservative forces. A body, one point of which is fixed, is set in motion by an impulsive couple, show that its kinetic energy is $\frac{L^2}{2I}$, where I is the moment of inertia about the instantaneous axis of rotation, and L the moment of the impulsive forces about this axis.

11. Prove from hydrostatical principles, or otherwise, that, if at every portion of a closed surface a normal force acts inwards proportional to the element of area, and to the distance from a fixed plane, the resultant is a single force. Determine the magnitude and position of the force.

12. Prove that if uniform homogeneous fluid be under the action of no forces but the mutual gravitation of its parts, the pressure at a distance r from the centre of the sphere into which the fluid collects itself, is $\frac{2}{3}\pi\rho^2\gamma(a^2 - r^2)$, where ρ is the mass of unit volume, a the radius of the sphere, and γ the constant of gravitation.

Deduce the attraction of one hemisphere for the other.

Saturday, 11*th April* 1891.—1 *to* 4 *o'clock.*

1. Show that any displacement whatever of a rigid figure can be effected by a screw-motion.

2. Analyse the homogeneous strain characterized by the nine quantities

$$\begin{matrix} 1, & 0, & 2 \\ 0, & 3, & 1 \\ 1, & 2, & 4. \end{matrix}$$

3. Show that, if ξ, η, ζ be the displacements of the point originally at x, y, z, the components of the rotation of the element at that point are

$$\tfrac{1}{2}\left(\frac{d\zeta}{dy} - \frac{d\eta}{dz}\right), \text{ etc.}$$

4. Interpret the expression

$$\frac{d^2V}{dx^2} + \frac{d^2V}{dy^2} + \frac{d^2V}{dz^2},$$

as a characteristic of the value of V at any point.

5. Sketch the fundamental principles of the method of electric images.

6. Form the equations for the steady conduction of electric currents in a uniform plate :—and solve them for the special case of a circular plate, whose centre is connected with one pole of a battery, while the other touches a point of the circumference.

7. Apply the general equation of Thermodynamics to determine the rise of temperature in adiabatic compression. Work out the result for a gas which follows the laws of Boyle and Charles.

8. Enuntiate and prove the Virial equation, and apply it to find the stress in an endless cord rotating in its own plane.

9. Investigate the form of the lines of force due to two similar units of magnetism at a finite distance from one another.

10. Assuming Newton's law of cooling, find for any future time the distribution of temperature in a sphere which was originally at one temperature throughout.

11. Define the intrinsic thermodynamic motivity of a system, and calculate that of 100 lbs. of mercury at 100° C. and 10 lbs. of water at 0° C. :—taking the specific gravity of mercury as 13·6, and its specific heat as 0·033.

12. Show that adiabatic compression changes saturated steam, not in presence of water, into superheated steam.

13. Investigate the rate of propagation of oscillatory waves in water, taking account of surface-tension. Hence show how to find, from proper data, the length of the slowest moving waves.

Bursaries, Prizes, Scholarships, and Fellowships in Arts.

—o—

I.—BURSARIES.

No. of Foundation.	Year of Found.	Name of Founder.	Total Annual Income.	No. of Bursars.	For Years.	Annual Allowance to each Bursar.	Patrons.
I.	16—	George Heriot.	At present £450 0 0	15	3	£30 0 0	Governors of George Heriot's Trust.
		Do. High School University Bursaries.	270 0 0	9	3	30 0 0	Do.
II.	16—	Do. For Young Men leaving Heriot's Hospital.	Regulated by No. of Candidates.	10	4	30 0 0	Do.
III.	1619	Archibald Johnston, Merchant in Edin.	11 2 2	1	4	11 2 2	Earl of Haddington.
IV.	1622	John Trotter of Mortonhall.	4 10 1	1	4	4 10 1	Trotter of Mortonhall.
V.	1626, 1629, 1640	Hugh Wight and David M'Call.	4 14 5	1	4	4 14 5	Town Council and Louis of Plean, two choices alternately.
VI.	1639	Dr Robt. Johnstone of London.	25 0 0	2	4	12 10 0	Johnstone of Annandale.
VII.	1639	Do. do.	25 0 0	2	4	12 10 0	Town Council.
VIII.	1642, 1653	Mausie Weir, relict of R. Dobie, Mer., & Dean of Guild of Edin., and D. Jenkins, Mer., Edin.	5 11 1	1	4	5 11 1	Town Council.
IX.	1644	Jas. Dalgliesh, Merchant, Edin.	11 2 2	1	4	11 2 2	Do.
X.	1673	Jn. M'Morran, Merchant.	2 15 6	1	4	2 15 6	Do.
XI.	1678	John Penman, Bailie and Merchant, Edinburgh.	14 15 0	1	4	14 15 0	Society for the Benefit of the Sons of the Clergy.
XII.	1678	Hector Ford of Branxton.	33 6 6	3	4	11 2 2	Town Council.
XIII.	1687	Sir Andrew Ramsay of Abbotshall.	11 2 2	1	4	11 2 2	Do. and Ministers of Edinburgh.
XIV.	1696	Hepburn and Lightbody.	5 16 8	1	4	5 16 8	Town Council and Campbell of Aberuchill, alternately.
XV.	1698	Ad. Chrystie, Under Clerk of Session.	18 0 0	1	4	18 0 0	Faculty of Advocates.
XVI.	1702	Thos. Bryson, Bailie and Merchant in Dunbar.	c 0 0	2	4	5 0 0	Ministers of the Presbytery of Dunbar.
XVII.	1703	James Pringle of Torwoodlee.	6 7 9	1	4	6 7 9	Pringle of Torwoodlee.

No. of Foundation.	Year of Found.	Name of Founder.	Total Annual Income.	No. of Bursars.	For Years.	Annual Allowance to each Bursar.	Patrons.
XVIII.	1714	Rev. Robert Brown, of Protestant Consistory at Zamose.	£25 0 0	2	4	{ 15 0 0 { 10 0 0	Town Council.
XIX.	1723	Alexander Mitchell, W.S.	8 6 8	1	4	8 6 8	Livingston Learmonth of Parkhall.
XX.	1725	William Wardrope, Litster, Edinburgh.	5 11 1	1	4	5 11 1	J C. Wardrop, W.S., 82 Princes St., Edin.
XXI.	1726	David Christie, Wigmaker, Edinburgh.	8 6 8	1	4	£8 6 8	Town Council.
XXII.	1734	Laurence Dundas, Professor of Humanity in the University of Edin.	About 44 0 0	2	4	About 22 0 0	Jas. Dundas of Dundas, Robt. Dundas of Arniston, and Dundas of Carronhall, by turns.
XXIII.	1764 1766	Rev. J. Penman, Min. of Bothkenner.	5 8 0	1	4	5 8 0	Gilmour of Craigmillar.
XXIV.	1768	Thos. Fraser, Clerk in the office of City Clerk, Edinburgh.	36 0 0	2	7	18 0 0	The Provost, Dean of Guild, and Treasurer of Edin.
XXV.	1778	Jas. Shortt, Optician, Edinburgh.	9 0 0	1	4	9 0 0	Earl of Morton.
XXVI.	1784	William Hume, Eastbarns, Dunbar.	16 0 0	2	4	8 0 0	Ministers of the Presbytery of Dunbar.
XXVII.	1784	Rev. Jas. Millar and Spouse.	24 0 0	1	4	24 0 0	Kirk-Session of Kippen.
XXVIII.	1809	Dr Donald Grant of London Street, St Pancras, London.	180 0 0	2	4	90 0 0	Earl of Seafield, and James Mackenzie, W.S., as Dr Grant's Trus.; whom failing, Sen. Acad.
XXIX.	1810	Rev. James Stewart.	About 30 0 0	3	3	About 10 0 0	Senatus Academicus.
XXX.	1821	Sir J. M'Pherson.	85 17 4	2	2	About 42 18 8	Senatus Academicus.
XXXI.	1837	James Menzies	200 0 0	4	4	45 0 0	Sir R. Menzies, Bart., & Ministers of Dull, Weem, & Fortingall
XXXII.	1838	Robert Blair, D.D., Barton St Andrews, Norfolk.	About 10 0 0	1	3	About 10 0 0	Principal, and Profs. of Latin, Greek, Mathematics, Logic & Metaphysics, and Moral Philosophy.
XXXIII.	1846	John Jamieson, Esq., Edinburgh.	26 0 0	1	4	26 0 0	Principal & two Profs. of the University.
XXXIV.	1846	G. P. Bidder, C.E.	43 12 0	1	4	43 12 0	Senatus Academicus.
XXXV.	1852	Wm. Lennie, Esq.	48 0 0	4	4	12 0 0	Town Council.
XXXVI.	1853	John Bruce, Esq. Trinity Crescent, Edinburgh.	160 0 0	{ 1 { 4	4 4	40 0 0 30 0 0	Do.
XXXVII.	1858	M'Diarmid Trustees.	10 0 0	1	3	10 0 0	Senatus Academicus.
XXXVIII.	1860	Wm. Patrick, Esq., of Roughwood.	About 120 0 0	1	2	About £80 ,, £40	Principal and Professors in Arts.
XXXIX.	1858	Edin. Ayrshire Club.	50 0 0	2	2	£25 0 0	Edin. Ayrshire Club.
XL.	1863	Peeblesshire Society.	45 0 0	3	4	{ 10 0 0 { 20 0 0	Peeblesshire Society.

No. of Foundation.	Year of Found.	Name of Founder.	Total Annual Income.	No. of Bursars.	For Years.	Annual Allowance to each Bursar.	Patrons.
XLI.	1864	Ed. Galloway Asso.					Ed. Galloway Asso.
XLII.	1864	Ed. Caithness Asso.	£10 0 0 Interest of	1	4	£10 0 0 About	Ed. Caithness Asso.
XLIII.	1864	A. H. Rhind of Sibster.	500 0 0	1	4	20 0 0	Edin. Caithness Asso.
XLIV.	1865	Mrs Margt. Tyndall Bruce, of Falkland.	165 0 0	3 3	3 3	35 0 0 20 0 0	Senatus.
XLV.	1865	Horsliehill Scott.	76 17 6	2	2	38 8 9	Do.
XLVI.	1867	Miss Hannah Harrison, of Lasswade.	34 13 8	1	2	34 13 8	Do.
XLVII.	1867	Rev. John Spence.	About 190 0 0	4 1	2 1	1st Year 30 0 0 2nd Year 40 0 0 50 0 0	Governors of the Spence Bursary Trust.
XLVIII.	1869 1872	Edin. Border Counties Association.	50 0 0	1 1	4 4	30 0 0 20 0 0 About	Edinburgh Border Counties Assoc.
XLIX.	1869	Argyllshire, Bute, and Western Isles Asso.	12 0 0	1	4	12 0 0	Argyllshire Association.
L.	1870	Stewart of Ardvorlich.	16 0 0 About	1	4	16 0 0 About	Proprietor of the Estate of Ardvorlich.
LI.	1870	David Cowan.	35 0 0 About	1 1	2 1	30 0 0 20 0 0	Directors of Ayr Academy.
LII.	1871	J. Robertson Sibbald.	150 0 0	5	4	30 0 0	Tr. of Dr J. R. Sibbald.
LIII.	1872	Angus Club.	25 0 0 About	1	4	25 0 0 About	Angus Club.
LIV.	1873	Earl of Zetland.	40 0 0	1	3	40 0 0	Trustees of Earl of Zetland.
LV.	1873	The Grierson Trus.	104 0 0	4 1	4 4	20 0 0 26 0 0	Senatus Acad.
LVI.	1874	Upper Ward of Lanarkshire.	20 0 0	2	4	20 0 0	Upper Ward Assoc.
LVII.	1874	Johnstone of Harthope.	18 15 0 About	1	4	18 15 0 About	Senatus Acad.
LVIII.	1874	James Lambert.	40 0 0	1	4	40 0 0	Senatus.
LIX.	1874	Fife, Clackmannan, and Kinross Assoc.	15 0 0	1	4	15 0 0	Fife, &c., Assoc.
LX.	1875	Robert Marshall.	37 10 0	1	4	37 10 0	Senatus Acad.
LXI.	1876	J. Fothringham of Heathpool.	37 10 0 About	2	4	18 15 0	Senatus Acad.
LXII.	1877	Earl of Zetland.	40 0 0	1	3	40 0 0	Trustees.
LXIII.	1878	Edin. E. Lothian Asso.	20 0 0	1	3	20 0 0	Association.
LXIV.	1878	Edin. University Endowment Asso.	120 0 0	6	3	20 0 0	Senatus Academicus.
LXV.	1878	Jas. Gillan.	105 0 0	3	3	35 0 0	Trustees of J. Gillan.
LXVI.	1878	Dr Andrew Thomson.	100 0 0 About	4	4	25 0 0 About	Trus. of Dr Thomson.
LXVII.	1880	Rev. John Patterson	20 0 0	1	4	20 0 0	Senatus Academicus.
LXVIII.	1880	High. and Agri. Soc.	200 0 0	10	1	20 0 0	Highland Society.
LXIX.	1881	Thomas Carlyle.	About £160	8	4	20 0 0	Senatus Acad.
LXX.	1883	Subscribers to Mackinnon Testimonial	£56 5 0	3	3	18 15 0	Senatus Acad.
LXXI.	1882	James Whitelaw.	66 18 10	3	3	22 6 4	Senatus Acad.

No. of Foundation.	Year of Found.	Name of Founder.	Total Annual Income.	No. of Bursars.	For Years.	Annual Allowance to each Bursar.	Patrons.
LXXII.	1883	William Renton, 20 Royal Ter., Edin.	£19 19 6	1	1	£19 9 6	Profs. Chrystal, Tait, Crum Brown, and Nicholson.
LXXIII.	1883	Isabella Macdougall	About 120 4 3	4	3	About 30 0 0	Trustees.
LXXIV.	1886	Rob. P. Newton of Castlandhill.	About 83 16 8	4	2	About 20 19 2	Senatus Academicus.
LXXV.	1886	Pet. C. Mann of Nairn and Durham.	About 80 0 0	3	3	About 26 13 4	Senatus Academicus.
LXXVI.	1886	Richd. Allan, Feuar, Kelso.	About 90 0 0	3	3	About 30 0 0	Trustees of R. Allan.
LXXVII.	1887	Mrs Kidd of Aigbarth, near Liverpool.	About 33 9 4	1	4	About 33 9 4	Senatus Academicus.
LXXVIII.	1887	Charles Jardine of Thorlieshope.	About 152 8 4	4	4	About 38 2 2	Senatus Academicus.
LXXIX.	1888	Mrs Harriet E. Morrison.	About 24 0 0	1	4	About 24 0 0	Senatus Academicus.
LXXX.	1889	Daniel Maclaurin, London.	About 70 0 0	1	4	70 0 0	Town Council.
LXXXI.	1889	James Simson, Edinburgh.	About 150 0 0	6	4	25 0 0	Presbytery of Edinburgh.
LXXXII.	1890	George Cousin.	27 0 0	1	3 or 4	27 0 0	Senatus Academicus.
LXXXIII.	1890	Rev. Thomas Maule.	80 0 0	4	6	20 0 0	Principal, and Profs. of Humanity and Greek.
LXXXIV.	1891	Donald Fraser, M.D., London, and Association for the Better Endowment of the University.	50 0 0	1	1	50 0 0	Senatus Academicus.

CONDITIONS OF FOUNDATIONS AND NAMES OF BURSARS.

I. These *Heriot Bursaries* are for Students unconnected with the Hospital, entering upon a regular Curriculum in Arts or Science with a view to graduation. (For remodelled scheme, see CALENDAR, 1887-88, p. 498.) *Bursars*—1888, John Bowie. 1889, Robert Samson, Franklin Ross, A. K. Campbell. 1890, Andrew Tweedie, Allan G. Gilbert, Thomas Smith, James A. Craig, John Gifford, Jas. B. M'Owan.

Do., High School University Bursaries. These are awarded by competitive examination among Scholars attending the High School, Edinburgh, and may be held at any University approved by the Governors. *Bursars*—1888, Neil Macmichael. 1889, Hugh Jackson, John A. Scott. 1890, J. Keith Ross, George E. Thompson, James A. Gibson.

II. *Do.* Young men who, upon leaving Heriot's Hospital, are, after examination, declared hopeful scholars, and fit to follow any of the liberal professions, are entitled to a Bursary of £30 a-year for four years, with a view to attendance on the regular course in Arts, with a view to the degree of M.A.

III. *A. Johnston Bursary.*—Each Bursar is entitled to hold this Bursary for

four years, subject to the conditions that he shall pass such examination as may be required of Presentation Bursars, and shall proceed through the Curriculum in Arts, and pass the Departmental Examinations for M.A. appropriate to each year. No one is permitted to hold the Bursary along with any other Bursary in the University. The Bursar must attend the Classes in the Arts Curriculum. *Bursar*—William F. Trotter.

IV. *Trotter Bursary.* This Bursary is held under the same conditions as No. III. *Bursar—Vacant.*

V. *Wight and M'Call Bursary.* This Bursary is held under the same conditions as No. III. *Bursar*—David Watson.

VI. and VII. *R. Johnstone Bursaries.*—By Ordinance No. 82, the holder of each of the four Robert Johnstone Bursaries is entitled to hold his Bursary for four years, subject to the condition that he shall pass such entrance examination as may be required of Presentation Bursars, and shall proceed through the Curriculum in Arts, and regularly pass the Departmental Examinations required of Students proceeding to the degree of M.A. No person is allowed to hold any of these Bursaries along with any other Bursary in the University. *Bursars*—James G. Anderson, John Davidson, George C. Kirk.

VIII. *Weir and Jenkins Bursary.*—For a Student in Arts, who must follow the Curriculum for the Degree of M.A. *Bursar*—John Davidson.

IX. The *Dalgliesh* Bursar is entitled to hold the Bursary for four years, subject to the condition that he shall pass such entrance examination as may be required of Presentation Bursars, and shall proceed through the Curriculum in Arts in the University, and regularly pass the Departmental Examinations required of Students proceeding to the Degree of M.A. No person is allowed to hold the Bursary along with any other Bursary in the University. *Bursar*—Thomas Linton.

X. *M'Morran Bursary.*—This Bursary is for a "Student of Philosophy" in the Arts Curriculum. *Bursar*—David Watson.

XI. *Fenman* Bursar.—The Bursar must attend the Classes in the Arts Curriculum. *Bursar*—John J. Maclean.

XII. Each *Ford* Bursar is entitled to hold his Bursary for four years, subject to the condition that he shall pass such entrance examination as may be required of Presentation Bursars, and shall proceed through the Curriculum in Arts, and regularly pass the Departmental Examinations required of Students proceeding to the Degree of M.A. No person is permitted to hold any of the Bursaries along with any other Bursary in the University. *Bursars*—David D. M'Tavish, William Robb, George D. Low.

XIII. The *Sir A. Ramsay* Bursar holds his Bursary for four years, subject to the condition that he shall pass such entrance examination as may be required of Presentation Bursars, and shall proceed through the Curriculum in Arts, and regularly pass the Departmental Examinations required of Students proceeding to the degree of M.A. No person is permitted to hold either of the Bursaries along with any other Bursary, Fellowship, or Scholarship of any Scottish University. *Bursar*—Charles Ramsay.

XIV. The *Hepburn and Lightbody Bursary* was founded by Sir Colin Campbell, Lord Aberuchill, and Sir Patrick Aikenhead, as executors of Sir Patrick

Hepburn of Blackcastle. It is for a Student of Philosophy who follows the Curriculum in Arts. *Bursar*—John Davidson.

XV. The *Chrystie Bursary* is usually held for four years. The Bursar is taken bound to attend "the usual classes," and must produce yearly to the Faculty certificates from the respective Professors of his due attendance, and the diligent prosecution of his studies. Candidates are referred for information to the Clerk to the Faculty of Advocates, Advocates' Library. *Bursar*—1888, James William Robertson.

XVI. The *Bryson* Bursars are first to enter the Humanity class: afterwards they are to pass through the rest of the classes in Arts until their Laureation; at which time, if judged by the ministers of the Presbytery of Dunbar fit for the study of Theology, they may continue for two years in Theology.

XVII. The *Pringle Bursary* was founded by James Pringle of Torwoodlee for a Bursar in Philosophy and Divinity, who must attend the classes in the Curriculum in Arts for M.A. *Bursar*—David Waterston.

XVIII. The *Brown Bursaries* are payable to Bursars in the regular course of study in Arts for M.A. *Bursars*—Duncan Urquhart, Alex. Williamson.

XIX. The *Mitchell Bursary* is payable to a student during a regular course of four years in the Faculty of Arts for M.A., and during two years (if the Patron think fit) at the Divinity Classes. *Bursar*—1887, J. D. F. Gilchrist.

XX. The *Wardrope Bursary* is for the maintenance and support of a Bursar of Philosophy in the University. *Bursar*—Walter C. Murray.

XXI. This *Christie Bursary* may be held by a Student during a regular course of four years in the Faculty of Arts for M.A. *Bursar*—Donald U. Crerar.

XXII. *Dundas Bursaries.*—The Patrons are directed to prefer the Mortifier's near relations; failing such, those of the surname of Dundas; and failing such, any other persons at their discretion. By Ordinance No. 78 of the Universities' Commissioners, each person presented to either of the Dundas Bursaries is entitled to hold the same for four years as a Student of Arts, subject to the condition that he shall pass such entrance examination as may be required of Presentation Bursars, and shall proceed through the Curriculum in Arts, and shall regularly pass the Departmental Examinations required for M.A. These Bursaries cannot be held with any other Bursary in the University. *Bursar*—1888, A. B. Macaulay.

XXIII. The *Penman Bursary* is payable to a "Student of Philosophy" for the period of four years in the Curriculum of Arts. *Bursar*—1890, Archibald Cowan.

XXIV. The *Fraser Bursaries* are for maintaining two Students of the name of Fraser, till they finish their course and take the Degree in the Faculty of Arts, and for three years thereafter; they making their election whether to follow Divinity, Law, or Medicine. Two Classes at least must be attended each Winter Session. Candidates should apply to the City Clerk, Council Chambers, Edinburgh. *Bursars*—1886, John Fraser; 1889, Thomas Fraser.

XXV. The primary object of the *Shortt Mortification* is the establishment of a Bursary for Mathematics. The Bursar must attend the Classes in the Curriculum in Arts. *Bursar—Vacant.*

XXVI. The conditions of the *Hume Mortification* correspond with those of Bryson's, No. XVI., and the presentations and payments are made as in that case. *Bursar*—David Hislop.

XXVII. *Millar Bursary.*—To be held by a Student intended for the Ministry in the Church of Scotland, during his Curriculum in the Faculty of Arts. *Bursar*—1889, John Dawson.

XXVIII. The *Grant Mortification* is for Students of the University of Edinburgh, of the name of Grant. The holders may attend the Arts, Medical, Divinity, or Law Classes. Application for information may be made to Messrs Mackenzie, Innes, & Logan, W.S., 23 Queen Street, Edinburgh. *Bursars*—1890, James Taylor Grant, Lewis Grant.

XXIX. *Stewart Bursaries.*—Candidates must be in the *second* year of attendance in the Curriculum of Arts. Bursars must attend Logic and the other Classes usually attended in that year, with a view to the Degree in Arts. *Bursars*—1889, James Burnet; 1890, R. M. Samson, Alex. F. Lay.

XXX. The *Macpherson Bursaries* are for the benefit of Students who are natives of the Highlands. They are bestowed on Students at the commencement of the *third* year of the regular course in Arts, with a view to the Degree of M.A., and are tenable for two years, during which the Bursars must attend Classes in the Curriculum of Arts. Candidates must have a knowledge of Gaelic. *Bursars*—1889, M. Macinnes; 1890, Neil Macmichael.

XXXI. *Menzies.*—These Bursaries, four in number, were founded in 1837, by James Menzies, Esq., Glasgow. They are of the annual value of £45 each, but vary in amount at discretion of the patrons, and tenable for four years, in any one of the Universities of St Andrews, Glasgow, or Edinburgh. Preference first to the relations of the Founder, next, to the name of Menzies; failing whom, to persons born on the estate of Sir Robert Menzies, Bart., within the parishes of Dull, Weem, and Fortingall; failing whom, any Student who shall be found best qualified may be appointed.

XXXII. The *Blair* Bursar must attend the Classes in the required order, and pass the Departmental Examinations necessary for the Degree of M.A. *Bursar*—1889, William Brander.

XXXIII. The *Jamieson Bursary* is for the benefit of the sons of schoolmasters, farmers, mechanics, and labourers, and other persons born and residing within any one of the following parishes—viz., Crawfordjohn, Crawford, united parishes of Lamington and Wandell, united parishes of Wiston and Roberton, Culter and Biggar. The Bursar may attend Classes in any of the Faculties. *Bursar*—1889, Andrew Rae.

XXXIV. Called the "*Jardine Bursary*," being founded by Mr Bidder, C.E., as a memorial of the munificence of Sir Henry Jardine to him, to which he owed the advantage of his education at the University of Edinburgh. Candidates must be natives of Scotland. The Bursar must attend the Classes, and pass the Departmental Examinations necessary for the Degree in Arts. *Bursar*—1888, Hugh R. Mackintosh.

XXXV. *Lennie Bursaries.*—Bursars must attend the Classes in the Arts Curriculum. Candidates should apply to the City Clerk, Council Chambers, Edinburgh. *Bursars*—James Stobie, James Mackenna, James L. Munro, James Wood.

XXXVI. *Bruce Bursaries.*—Prior to the commencement of each Winter Session, five Students are presented yearly, the most distinguished of the five receiving the £40 Bursary. The Bursars must be in regular attendance on the Classes necessary

for the Degree of Master of Arts. Candidates announce their names at the Council Chambers to the City Clerk. *Bursars*—John Davidson, W. J. Pennell, James L. Linton, R. Burnett, Angus Macdonald, Laurence Ker.

XXXVII. The *M'Diarmid Bursary* is a memorial of the late John M'Diarmid, Esq., Editor of the *Dumfries and Galloway Courier*. Candidates must be natives of the county of Dumfries or the stewartry of Kirkcudbright. The Bursar must attend the Classes and Examinations necessary for the Degree of Master of Arts. Applications regarding the Bursary to be made to "H. Gordon, Esq., Dumfries." *Bursars*—1888, John W. Geddes; 1889, W. H. Carse.

XXXVIII. The *Patrick Bursaries* are for the assistance of those who have completed a course of education at any of the public schools or academies in the county of Ayr, where a course of Classical Study is pursued, and who are in a condition to apply for admission into the University. Their value fluctuates, being, for the first, two-thirds of the dividend on £3000 Glasgow and South-Western Railway Stock; and for the second, the remaining third of said dividend. The Bursars must attend the Classes and Examinations necessary for the Degree in Arts, in the order required by the Faculty. *See* p. 197 of CALENDAR for 1865-66. *Bursars*—1890, 1st, Alexander B. Macdonald; 2nd, George Hart.

XXXIX. *Ayrshire Club Bursaries.*—Awarded after competitive examination to natives of Ayrshire requiring aid, and tenable during the Curriculum in Arts, on condition of regular attendance at the Classes, with a view to the Degree. Information will be afforded by the Secretary of the Club, Mr A. H. Cooper, W.S., 8 S. Charlotte Street. *Bursar*—1889, Hugh Reid.

XL. *Peeblesshire Bursaries.* — Candidates must be natives of Peeblesshire, must have been educated within the county, and must pursue the Curriculum of Arts, at this University, with a view to the degree in Arts. A bursary of £20 is given by the Society; one of £10 by Mr Tod of St Mary's Mount, the latter tenable in any Scottish University. Apply to the Secretary of the Society, Mr James Stirling, 27 East Claremont Street. *Bursar*—Archibald B. Clark. *Mr Tod's—Vacant.*

XLI. *Galloway Bursary.*—Discontinued for the present.

XLII. and XLIII. *Caithness and Rhind Bursaries.*—Bursars must attend Classes in Arts Curriculum. Apply to Secretary of the Association. *Bursar*—1887, Frank W. Nicolson.

XLIV. *Bruce of Grangehill and Falkland's Bursaries.*—Three of these Bursaries, of the annual value of £35, are awarded after competitive examination to Students of the *second* year in their course of study for a Degree in Arts; and three others, of the annual value of £20, to Students entering the *first* year of the Arts Curriculum. *Bursars*—First year, 1888, A. J. Campbell; 1889, D. G. Hamilton; 1890, William Harvey, J. W. Duffus. Second year, 1889, Thomas M'Vey; 1890, George L. Moffat.

XLV. *Horsli.hill-Scott Bursaries.*—Annual value £35 to £41, under deduction of £6, 6s. for Examiners' fees from first year's payments. Open to Students in the *third* year of their course for a Degree in Arts, and tenable for two years. The examination is in Classics, Mathematics, and Logic and Metaphysics. Deed of Foundation, at p. 208 of CALENDAR for 1866-67. *Bursars*—1889, James Mitchell; 1890, Robert Lees.

XLVI. The *Harrison Bursary* is of the annual value of £32, under deduction of £6, 6s. of Examiners' fees from first year's payments. Open to Students in the *third* year of their course in the Faculty of Arts, with a view to a degree, and is tenable for two years. It is to be awarded to the competitor who shall show the greatest proficiency in Classics, Mathematics, and Logic and Metaphysics. *See* Deed of Endowment, p. 231 of CALENDAR for 1867-68. *Bursar*—1889, R. G. M'Kerron.

XLVII. *Spence Bursaries.*—By the regulations of the Governors, two Bursaries, each of the annual value of £30 for the first year and £40 for second year of tenure, are open only to Students who have studied in the University of Edinburgh, at the commencement of their second session in a three years' curriculum, or of their third session in a curriculum of four years. Examination in Latin, Greek, Mathematics, and British History. Governors may award to any Bursar who has graduated or passed all the examinations for a Degree in Arts, a Bursary of £50 for one year, tenable in any of the other Faculties. See Scheme, p. 520 of CALENDAR 1889-90. Candidates apply to Messrs A. & H. Patullo, Writers, 11 Bank Street, Dundee, for particulars.

XLVIII. *Border Counties and Sir Walter Scott Bursaries.*—Candidates must be natives of the counties of Roxburgh, Berwick, or Selkirk, and must attend the classes necessary for a Degree in Arts. Application to be made to Mr T. Usher, Sheriff Court House, Edinburgh. *Sir W. Scott Bursar*—1889, John Henderson. *Border Counties Bursar*—1887, William Fulton.

XLIX. *Argyllshire Bursary.*—To be held by natives of Argyllshire, Bute, or Western Islands. The holder must attend the classes necessary for a Degree in Arts. Application may be made to Donald Beith, Esq., W.S., 43 Castle Street, Edinburgh. *Bursar*—1889, Charles Macdonald.

L. *Ardvorlich Bursary.*—Open to Students of Arts, natives of the parishes of Comrie, Balquhidder, Callander, or Killin, failing whom, to natives of Perthshire, and failing such, to the best qualified candidate. The holder must attend Arts or Science classes. Application to be made to the Clerk of Senatus. For remodelled Foundation, see CALENDAR 1887-88, p. 501; for original deed, see p. 275 of CALENDAR for 1870-71. *Bursar*—1890, J. F. Cameron.

LI. *Cowan Bursary.*—Candidates must be about to enter the Curriculum in Arts. Annual value for first two years £30, and £20 for third year, to be held alternately at Edinburgh and Glasgow Universities. Information will be afforded by W. F. M'Cubbin, Esq., Ayr. *Bursar—Vacant.*

LII. *Sibbald Bursaries.*—The Bursaries are available to Students in the Faculties of Arts, Medicine, Law, or Divinity, and are open to Students entering the University who have not previously attended any University in the United Kingdom or elsewhere, *and who do not hold any other Bursary or Scholarship;* but no objection to a Candidate that he has, during the previous Summer Session, attended any of the Classes in the University of Edinburgh required by the Faculties of Medicine or Law. See CALENDAR for 1888-89, pp. 171 and 177. Application to be made to Messrs Mackenzie, Innes, & Logan, W.S., 23 Queen Street, Edinburgh. *Bursars*—1887, John R. Currie, Hugh Gordon. 1888, Philip H. Hanson, David S. Crichton; 1889, Gavin Grey; 1890, Hugh M'Calman, John A. Johnston.

LIII. *The Angus Club Bursary.*—Open to Forfarshire students entering the University for the first time. Application should be made to the Secretary of the Club, Mr T. S. M'Laren, W.S., 11 Hill Street. *Bursar*—1888, David Hird.

LIV. *Orkney and Zetland Bursary.*—Open to first year's Students (male or female), natives, or children of parents who are natives of the County of Orkney and Zetland. It is tenable for three years. The Bursar must attend the Classes in the Curriculum in Arts, with a view to a Degree. Applications to be sent to Messrs H. G. & S. Dickson, W.S., 12 Castle Terrace, Edinburgh. The Deed of Foundation will be found in CALENDAR for 1873-74, p. 329. *Bursar*—1889, Edwin Rogerson.

LV. *Grierson Bursaries.*—Four Bursaries of £20 each, and one of £26, awarded annually in November, under the patronage of the Senatus. They are restricted in the first place to natives of either of the parishes of Crawford or Leadhills, who must pass an examination, satisfactory to the Senatus, in Elementary Latin, English, and Arithmetic. In the event of more than one preferential Candidate, the examination is competitive among such candidates. If no preferential Candidates, the Bursaries are thrown open for competition to all Students then intending to enrol in the University for the First Session of the Curriculum in Arts, the subjects of examination being those prescribed for Bursars of the First Year. *See* Trust Disposition of Founder at p. 335 of CALENDAR for 1873-74, and p. 368 of the CALENDAR for 1877-8. *Bursars*—1887, Ian M'Intyre; 1889, W. G. Napier. *Lapsed Bursaries for two years*, Thomas Finlay, A. H. Gray, and John Turner; 1890, E. M. Beilby, James Paterson.

LVI. *Lanarkshire* (Upper Ward of) *Bursaries.* — Bursars must attend the Classes in the Arts Curriculum. Mr R. Brown, Secretary, 28 St Andrew Square. *Bursar*—1888, J. D. P. M'Letchie.

LVII. *Johnstone of Harthope Bursary.* Natives of Moffat, Peebles, and Students of the name of Alexander or Johnstone preferred, if preferential candidates announced to Secretary of Senatus before 1st of October. *See* Deed of Foundation, at p. 350 of CALENDAR for 1875-76. *Bursar—Vacant.*

LVIII. *Lambert Bursary.*—This Bursary cannot be instituted until after the death of an annuitant. *See* Deed of Foundation, at p. 342 of CALENDAR for 1875-1876.

LIX. *Fife and Kinross Bursary.*—Open only to Students from Fife, Clackmannan, and Kinross. Applications may be made to the Secretary, Mr W. G. Roy, 28 Broughton Place, Edinburgh. *Bursar*—1888, J. T. C. Ireland.

LX. *Marshall Bursary.*—Restricted in the first place to relatives of Founder, next to Students of the name of Marshall, and natives of West Lothian. *See* Deed of Foundation, at p. 347 of CALENDAR for 1876-77. *Bursar*—1888, James M. Thomson.

LXI. *Fothringham and Forrest Bursaries.* Relatives or namesakes of the Founder, then such as are of the name of Forrest, to be preferred. *Bursars*—1889, James Wood; 1890, C. A. Macpherson.

LXII. *Earl of Zetland's Bursaries.*—These Bursaries are open to First Year Students in the Faculty of Arts, who are natives of the Islands or County of Orkney and Zetland, or children of parents, one or both of whom shall have been born in or connected for a long period of years with the said Islands or County.

For Deed of Foundation of these Bursaries, *see* p. 373 of CALENDAR for 1877-78. Application to be made to Messrs H. G. and S. Dickson, W.S., 12 Castle Terrace, Edinburgh. *Bursar*—1888, David Flett.

LXIII. *Edinburgh East Lothian Association's Bursary.*—The Bursary may be competed for by any lad under the age of 18, who has been educated at any school in East Lothian, or who, having passed through all the standards or their equivalents at such schools, shall have afterwards attended for not more than three sessions any secondary school within or without the county. Application may be made to J. Purves, S.S.C., 65 Frederick Street. *Bursar*—

LXIV. *Edinburgh University Endowment Association's Bursaries* are open to Students entering the Faculty of Arts for the first time, are tenable for three years, and the Examination is held at the annual Arts Bursary Competition. Bursars must proceed through the Curriculum in Arts, and pass the Examinations for the Degree of M.A. Cannot be held with any other Bursary. *See* Minute of the Endowment Association, among Deeds of New Foundations, p. 375 of CALENDAR for 1878-9. *Bursars*—1888, Frank R. Pearson, C. E. Stuart: 1889, Robert Godfrey, T. G. Bailey, H. F. L. Taylor; 1890, Thomas Pullar, Stuart Robertson, Drummond S. Ross.

LXV. *Gillan Bursaries.*—Founded in 1878 by James Gillan, Forres. Three of £35 each, two open to natives of Forres, and one to natives of Dyke. Candidates must attend the Arts Curriculum in the University of Edinburgh, and afterwards the New College, Edinburgh, with a view to the ministry of the Free Church. For particulars application may be made to Messrs R. & R. Urquhart, Solicitors, Forres. *Bursars*—Charles F. Charleson, Cecil J. Davidson.

LXVI. *Thomson Bursaries.*—Candidates of the name of Thomson or Traquair, or natives of town or county of Dumfries or city of Edinburgh, preferred. Apply to Messrs Traquair, Dickson, & Maclaren, W.S., 11 Hill Street. *Bursars*—1886, James Watt. 1887, A. M. Hunter. 1888, George Liddell. 1889, A. Claud Montgomerie Bell. 1890, *G. Scott Dalgleish.*

LXVII. *Patterson Bursary*, in Anglo-Saxon, Grammar, and Literature. To come into operation on the death of an annuitant. *See* Deed of Foundation at p. 379 of CALENDAR for 1880-81.

LXVIII. *Highland and Agricultural Society's Bursaries.*—The Society annually grants £200 for ten Bursaries of £20 each, tenable for one year, at the University of Edinburgh, for the purpose of enabling the holders to take the classes necessary to qualify for the Society's Certificate or Diploma, to be determined by examination held in Edinburgh by the Society's Examiners.

LXIX. *John Welsh Bursaries*, founded by Thomas Carlyle in 1881, in memory of his Father-in-law, to whom the estate of Craigenputtock in Dumfriesshire, bequeathed by Mr Carlyle to the University of Edinburgh, formerly belonged. The Bursaries are paid from the rents of that estate, and are eight in number, of the value of about £20 each, tenable for four years. They are awarded, after competition, to Students entering the University, who have not studied in any other University. Five are to be given to the competitors most proficient in Mathematics, and five to those most proficient in Classics. They are not to be held with any other Bursary. *See* Deed of Foundation at p. 379 of CALENDAR

for 1881-82. *Bursars*—(*Classical*)—1887, James Currie, H. Gordon; 1890, Walter R. Henderson, W. W. M'Kechnie. (*Mathematical*)—1887, James Mitchell, Robert Pollok; 1890, J. Hossell Henderson, A. G. Burgess.

LXX. *Mackinnon Bursaries.*—Three Bursaries about £18, 15s., tenable for three years, to encourage the study of the Mechanical Sciences. Each Bursary is open for competition to Students entering their First Session in the Faculty of Arts. Candidates must be natives of the counties of Argyll, Bute and Arran, Inverness, Ross or Sutherland, and must be able to speak the Gaelic language. The Examination is held at the annual competition for Bursaries at the beginning of each Session, with an additional examination by the Professor of Celtic; at least 10 per cent. of the total marks attainable being assigned to Gaelic. Each Bursar is bound to attend at least two classes in the Faculty of Arts during his tenure, and among these six classes, at least one class of Mathematics, one of Natural Philosophy, and the class of Engineering. The Bursary cannot be held along with any other Bursary, Scholarship, or Fellowship in a Scottish University, or with any office yielding an annual income of £50 or upwards, and is tenable only during good behaviour and proficiency. *Bursars*—1888, George Munro; 1889, David Duncan 1890, Farquhar C. Macrae, J. M. Macdonald.

LXXI. *Whitelaw Bursaries.*—In memory of James Whitelaw, Watchmaker. Three Bursaries, about £23 each, tenable for three years, open to Students about to enter, or who follow the Curriculum in Arts. Cannot be held along with any other Bursary, Scholarship, or Fellowship in a Scottish University, or with any office yielding £50 annually, or upwards. Examination in October annually. *Bursars*—1888, Peter Campbell, Albert E. Goodwin, Robert Welsh.

LXXII. The *Renton Bursary*, founded by the Trustees of the late William Renton, 20 Royal Terrace, Edinburgh, is for a Student pursuing his studies in the classes of Natural Philosophy, Mathematics, Chemistry, and Political Economy, or such of them as he may consider proper, and who may require assistance. The Bursary is tenable for one year, and cannot be held by any one under the age of sixteen or above twenty-one. It is filled up in November each year. The Examination is conducted each year by the Assistant to one of the Professors of Natural Philosophy, Chemistry, and Mathematics in turn, and in the above-named order. *Bursar*—1890, John Middleton.

LXXIII. The *Macdougall Bursaries* are open to Students of Edinburgh, Glasgow, and St Andrews Universities. Students attending the Gaelic Class to be preferred. The Bursaries cannot be held with any Bursary or appointment yielding £50 per annum. *See* Deed of Foundation at p. 435 of CALENDAR 1885-86. Application may be made to Mr W. C. Young, solicitor, Perth. *Bursars*—1886, W. Smith, C. D. M'Intosh; 1887, W. A. Neilson; 1888, James Hood, Naughton Macnaughton.

LXXIV. *Newton Bursaries.*—Two are awarded annually, one to the most distinguished Student in the Junior Class of Natural Philosophy, and one in the Senior (Second) Class of Mathematics. The Bursaries are tenable for two years, and the Bursars must continue their studies in the higher branches of the subjects of their Bursaries, and at the end of the second year of tenure, either take Honours in Mathematics and Natural Philosophy, pass the 2nd B.Sc. Examination, or give other evidence of advanced study in Mathematics or Natural Philosophy.

These Bursaries are not to be held with other Scholarships or Bursaries. *See* Deed of Foundation, p. 460 of CALENDAR, 1886-87. *Bursars* (*Math.*)—1891, T. M. Wilson. (*Nat. Phil.*)—1891, Alexander Paton.

LXXV. *Mann Bursaries.*—(1.) Candidates must be children of residents in the town of Nairn, *i.e.*, one or both parents must have resided within the municipal boundaries for at least twelve months at any period prior to the competition. (2.) Applications must be lodged with the Clerk of Senatus at least three weeks before the Annual Bursary Examination of the University, along with evidence of compliance with Rule I. (3.) One will be awarded annually to the candidate, matriculating for the first time in this University, who obtains the highest marks at the Entrance Bursary Examination in English, Latin, Greek, and Mathematics, provided the Examiners be satisfied with the standard he has attained. (4.) Each will be tenable for three years, value about £25 per annum. (5.) Failing candidates of the first year, the vacant Bursary will be awarded as a second year Bursary to the candidate who obtains the highest marks in the Bursary Examination for the second year; and, failing candidates of the first and second years, it will similarly be awarded as a third year Bursary. When awarded under this Rule it is tenable for one year only. (6.) Failing candidates qualified under Rule III. or Rule V., the Senatus may continue one of the Bursaries to its holder for a fourth year, provided he propose to continue his studies for a fourth year in some special subject. (7.) Each Bursar must be *bona fide* engaged in studying for a Degree in Arts or in Science, and must produce evidence at the end of each Winter Session that he has attended at least two classes in the Faculty of Arts, or in a Department of Science, and has made reasonable progress in his studies. (8.) Any breach of these regulations, or conduct unworthy of a scholar and a gentleman, will be punished by forfeiture of the Bursary. See Deed of Foundation, p. 497 of CALENDAR 1887-88, and Regulations at p. 544 of CALENDAR for 1890-91. *Bursars*—1888, W. J. Collier. 1889, Thomas Fraser, James Tolmie; 1890, John Rose, A. M. Mackay.

LXXVI. *Allan Bursaries.*—These Bursaries are available to Students attending classes in any of the Faculties of Arts, Medicine, or Law, in the University of Edinburgh, or to Students attending the classes in said University necessary for Degrees in Science; and are tenable for three years or for such part of that period as the Bursar shall remain a Student at the University. In nominating Candidates for presentation to the Bursaries, care will be given to prefer such as have been born in the parish of Kelso, provided they are qualified by their previous education for entering the University. Apply to P. Stormonth Darling, Esq., writer, Kelso.

LXXVII. *James Fairbairn Bursary*, founded by Mrs Kidd of Palmyra, Aigbarth, near Liverpool, in memory of James Fairbairn, late Governor of Heriot's Hospital, is open to competition to first year Students, and is tenable for four years. The Bursar is required to attend the Classes necessary for Graduation in Arts, and to take the Degree at the end of the Course. The Bursary cannot be held along with any other Bursary or Scholarship. See Deed of Foundation, p. 501 of CALENDAR, 1887-88. 1889, R. P. Davidson.

LXXVIII. *Jardine of Thorlieshope Bursaries.*—Natives of the rural districts of Roxburghshire and Dumfriesshire (villages and towns of the population of 2000

and upwards being excluded), who have attended the Public or Board Schools in said counties, to be preferred. In the event of there being no first year Candidates, the Bursaries will be thrown open to Candidates of the second, third, or fourth year in succession, but will be tenable for one year only. The Bursars are required to attend the Classes necessary for Graduation in Arts, and to take the Degree at the end of the Course. The Bursaries cannot be held along with any other Bursary or Scholarship. See Deed of Foundation, p. 497 of CALENDAR, 1887-88. *Bursars*—1889, George White; 1890, Richard C. Davidson, Alexander Grieve, for one year.

LXXIX. *MacKenzie* (*Stornoway*) *Bursary.*—Candidates of the name of MacKenzie have a preference. The Examination is in Latin, Greek, Mathematics, and English, and the Bursary will be awarded to the Candidate who stands highest, provided he has reached the standard of the Three Years' Curriculum Examination in at least two subjects. Failing a preferential Candidate, the Bursary will be thrown open to competition as a first year Bursary in Arts. The Bursar is required to attend the Classes necessary for Graduation in Arts, and to take the Degree at the end of the course. For Regulations, &c., see p. 521 of CALENDAR for 1889-90. This Bursary will not be instituted until the death of a liferenter.

LXXX. This Bursary, tenable for four years, is by the will of the founder to be called the "Maclaurin Bursary," and is restricted to Students of the Founder's name of Maclaurin (or in Gaelic orthography "Maclalhrin"). See Deed of Foundation, p. 544 of CALENDAR for 1890-91.

LXXXI. Six Bursaries, each of the annual value of £25, and tenable for two years in the Faculty of Arts, and two in the Faculty of Divinity. They are open to Students entering on the third year of the Course in Arts, who are studying for the Ministry of the Church of Scotland. For conditions of tenure and subjects of examination, apply to the Rev. Dr Langwill, Currie, or to Rev. John Patrick, Greenside, Edinburgh. *Bursar*—1890, Charles Edward Stuart.

LXXXII. *Bailie Cousin's Bursary* is open for competition to Students entering the Faculty of Arts on a regular course (of three or four years) for the Degree of M.A. The holder must regularly pass the departmental examinations appropriate to each year. The Bursary cannot be held along with any Fellowship, Scholarship, or Bursary of any Scottish University, or with any situation or appointment yielding an annual income of £30 or upwards. For Deed of Foundation see CALENDAR 1891-92, page 536.

LXXXIII. *Maule Bursaries.*—These Bursaries are for the education of poor and deserving Students. They may be held by Students prosecuting their studies in any of the Faculties. The Examination is in Latin, Greek, Mathematics, and English for preferential Candidates. See Deed of Foundation, p. 543 of CALENDAR for 1891-92.

LXXXIV. *The Donald Fraser Bursary* is awarded for high merit in the University Class of Natural Philosophy, combined with proficiency in Laboratory Work. The Bursar is required to give assistance in the University Physical Laboratory, and to engage in research there. The Bursary cannot be held along with any other Fellowship, Scholarship, or Bursary in any Scottish University. See Deed of Foundation, p. 545 of CALENDAR for 1891-92.

II.—PRIZES.[1]

I.—THE LORD RECTOR'S PRIZE.

The Lord Rectors since 1879 have, during their respective tenures of office, offered a Prize of Twenty-five Guineas annually, for the best Essay on a Historical Subject. The following are the names of the prizemen :—

1886. John Downie, M.A.
1887. In abeyance.
1888. Geo. Wilton Wilton, B.L.
Prox. access., Hotchkin Haynes Murray
1889. Stewart Alan Robertson.
1890. *James Wallace.*

II.—EDINBURGH UNIVERSITY CLUB (OF LONDON) TRIENNIAL PRIZE.

A Prize of Twenty Guineas, open triennially, for competition in any of the Faculties by Graduates of not more than two years' standing, is offered by the Edinburgh University Club of London, for the best Essay on a subject prescribed by the Deans of the Faculties in rotation, subject to the approval of the Senatus. *See* Prizes open in 1891-92 for subject, &c.

1887. W. E. Fothergill, M.A.
1890. *No award.*

III.—BRUCE OF GRANGEHILL AND FALKLAND'S PRIZE IN THE CLASSES OF LOGIC AND METAPHYSICS.

This Prize of £20 (with a supplementary Prize of £10 for the Junior Division of the Class) is awarded to the most distinguished student in this class, "on such conditions and competition as the Professor may direct, and on his decision," for excellence in the study of Logic and Metaphysics. It was founded in 1865, by Mrs Tyndall Bruce of Grangehill and Falkland, in commemoration of John Bruce, Professor of Logic and Metaphysics in the University, 1774-1786.

1886. William Caldwell, M.A.
1887. T. E. Sandeman, M.A.
1888. Wm. Ingram, M.A. } equal
William G. Smith }
1889. Charles M. Douglas, M.A.
1890. James Mitchell.
1891. *Henry Barker.*

IV.—GRAY PRIZES.

The Gray Prize Essay Fund was instituted in 1860, in terms of the will of Simon Gray, Esq., of Mornington Crescent, London. It is under the management of Five Trustees, of whom W. Ritchie, D.D., of Duns, is the Secretary.

The Trustees of Gray's Prize Essay Fund offer this year, for competition, three prizes of £20, £10, £5 respectively, for the First, Second,

[1] The names of University Prizemen are retained in the CALENDAR for five years.

and Third Essays in the order of Merit, on "The Life and Poetry of John Milton."

In terms of the Trust Deed, the Competitors for these prizes must be Students in the University of Edinburgh, who at the commencement of the present Session (1890-91), were not of more than three years' standing, or entering then on the fourth Session, from their first matriculation in a University Curriculum. Each Essay submitted for competition must have a motto prefixed to it, and be accompanied with a *separate* sealed envelope, bearing this motto inscribed on it, and having enclosed the name and address of the Author; and these must be forwarded to the Secretary, the Rev. William Ritchie, D.D., Duns, on or before the 1st of September next. The length of each Essay must not exceed what may be read in an hour and half, and in justice to all competitors, the Trustees find it necessary to make adherence to this stipulation an essential condition in the competition, The decision will be announced by advertisement in the newspapers in the beginning of November, but if it is judged that none of the Essays merit the Prizes, the right is reserved of declining to award them, and of offering them for future competition. The successful Essays will be retained as the property of the Trustees. The sealed envelope must not be put within any Essay, but sent enclosed to the Secretary apart.

The Trustees made the awards for the Session 1889-90, as follows:—"The British Constitution compared with Modern Republics," 1st prize of £20 to Mr Henry Barker, Edinburgh; 2nd prize of £10 to Mr Walter C. Murray, Edinburgh; 3rd prize of £5 to Mr J. L. M. Watt, Dalkeith.

V.—DR MUIR'S PRIZES IN SANSKRIT AND COMPARATIVE PHILOLOGY.

In accordance with the intentions of the late Dr. John Muir, and with the concurrence of Sir William Muir, the sum of £100, offered by Dr Muir in 1872 as a prize to the first candidate who should take the degree of Doctor of Science in Sanskrit and Comparative Philology within five years,—afterwards renewed, on the same terms, for another period of five years,—has now, together with the interest, been appropriated by the Senatus for Sanskrit and Comparative Philology Class Prizes. It is left to the discretion of the Professor to offer Class Prizes, not exceeding £25 in the aggregate, for competition.

1888. Hermann Walter
,, Al. Douglas Thomson
,, George Douglas } equal
,, John Tennant }
1889. G. A. Ferguson
,, J. E. Wood
1889. A. E. O'Flaherty
1890. John Maclennan
,, E. Monteith Macphail
1891. *John Maclennan, M.A.*
,, *William Menzies.*
,, *John M. Tait.*

VI.—SCOTT AND DUNBAR PRIZE.

This Prize, of the value of about £18, was founded in 1872 by the Rev. Hew Scott, D.D., of Anstruther Wester, for encouraging the study of the Greek Language in the University of Edinburgh. It is awarded to "the most deserving and learned student in the Greek Classes," after such Examination as may be directed by the Principal and the Professors of Divinity, Greek, and Humanity. The prize will not be awarded till further notice. *See* Deed of Foundation at p. 332 of CALENDAR, 1873-74.

1887. James C. Smith
1888. { J. A. Norrie / James Watt } equal
1889. Patrick Duncan
1891. *R. P. Davidson.*

VII.—THE COUSIN PRIZE.

This Prize, founded in connection with the Class of Fine Art through a bequest by the late David Cousin, Esq., is of the annual value of about £14, 14s. 6d., and is awarded at the close of each session for proficiency in Class Essays set from time to time by the Professor. *See* Excerpt from Mr Cousin's will in CALENDAR 1880-81, p. 380.

1887. R. A. Falconer
1888. David J. Vallance
1889. Johnstone Murray
1890. Duncan Mackenzie
1891. *J. Malcolm Tait*

VIII.—KELLAND MEMORIAL PRIZE.

The Committee for promoting a Memorial to the late Professor Kelland has handed over to the University the sum of £147, 10s., for the purpose of founding a Prize to be called the "Kelland Memorial Prize," to be awarded annually to the most distinguished Student in Pure Geometry in the Junior Mathematics Class.

III.—SCHOLARSHIPS.[1]

I.—PITT CLUB CLASSICAL SCHOLARSHIP.

The Pitt Club Scholarship of the annual value of £57, 10s. 4d., tenable for not more than four years. It is under the management of the Senatus Academicus. By ordinance No. 17 of the Scottish Universities' Commissioners it is open for competition to all who have passed regularly through the Course in Arts in the University, and have been admitted to the Degree of M.A. in Edinburgh, at any time within four years before the competition takes place. The subjects embraced in the examination are CLASSICS and ENGLISH LITERATURE. The next competition will take place in December 1892.

1888. *Norman M'Lean, M.A.*

[1] The names of University Scholars are retained in the CALENDAR for five years.

II.—MACKENZIE CLASSICAL SCHOLARSHIP.

This Scholarship was founded in 1862, by James Mackenzie, Esq., W.S., and is of the annual value of £121, 10s., tenable for not more than four years. It is under the management of the Senatus Academicus. By ordinance No. 90 of the Scottish Universities' Commissioners, it is open for competition to all Graduates in Arts in the University of Edinburgh of not more than three years' standing at the time of the competition. Candidates are examined in CLASSICAL LITERATURE and in ENGLISH LITERATURE, and the Examination is conducted by three or more Examiners selected by the Senatus from their own body. It cannot be held along with any other Scholarship, Fellowship, or Bursary, of any Scottish University. The Examinations include—1. Translations from Latin and Greek authors; 2. Composition in Latin and Greek Prose; 3. Latin and Greek Literature, and History; 4. English Essay-Writing; 5. History of English Literature. The next competition will take place in December 1892.

1888. *George Smith, M.A.*

III.—SIR DAVID BAXTER MATHEMATICAL SCHOLARSHIP.

This Scholarship was founded by Sir David Baxter, Bart., of Kilmaron, is of the annual value of £61, 15s. 10d., and tenable for not more than four years. By the terms of the Deed of Foundation (given in the CALENDAR for 1864-5, p. 171) it is awarded for proficiency in the department of Mathematics, particularly in that branch of it which includes mechanical and physical science. Competitors must be Graduates in Arts of the University, of not more than four years' standing at the time of the competition, who have taken Honours in the department of Mathematics. The next competition will take place in December 1893.

1886. Alexander Morgan, M.A. | 1890. *Charles E. Grange, M.A.*

IV.—SIR DAVID BAXTER PHILOSOPHICAL SCHOLARSHIP.

This Scholarship was founded by Sir David Baxter, Bart., of Kilmaron, is of the annual value of £61, 15s. 10d., and tenable for not more than four years. By the terms of the Deed of Foundation (given in the CALENDAR for 1864-5, p. 171), it is awarded for proficiency in the Department of Mental Philosophy. Competitors must be Graduates in Arts of the University, of not more than four years' standing at the time of the competition, who have taken Honours in the department of Mental Philosophy. The subjects of examination are Logic, Metaphysics, and Moral Philosophy. The next competition will take place in December 1894.

1886. George W. Stewart, M.A. | 1890. *Duncan MacKenzie, M.A.*

V.-VII.—JOHN EDWARD BAXTER SCHOLARSHIPS.

These Scholarships were founded in 1876, and are three in number, each of the annual value of about £92, and tenable for three years. One is in the Department of Classical Literature, another in Mental Philosophy, and the third in Mathematics and Natural Philosophy. They are open for competition to all Masters of Arts of the University of not more than three years' standing at the time of the competition. The Scholarship in *Mathematics* will be competed for in December 1891. *See* Deed of Foundation at p. 361 of Calendar for 1877-78.

1886. F. R. Jamieson, M.A. (Cl.)
1887. Wm. Mitchell, M.A. (Ph.)
1888. David B. Mair, M.A. (Ma.)
1889. Patrick Duncan, M.A. (Cl.)
1890. *W. G. Smith, M.A.* (Ph.)

VIII.—DRUMMOND MATHEMATICAL SCHOLARSHIP.

This Scholarship was founded in 1865 by Miss Elizabeth Drummond, in memory of her brother, Captain Drummond, R.E., Under Secretary for Ireland. It is of the annual value of £105, 12s. 6d., and is tenable for three years. By the Deed of Foundation (given at p. 198 of CALENDAR for 1865-6), it is open to Graduates in Arts of not more than three years' standing, who have graduated with Honours in the Department of Mathematics. It cannot be held with any other Bursary or Scholarship, and the holder is recommended to travel for the purpose of inspecting, in this and other countries, remarkable engineering and architectural structures, to extend his knowledge of the practical application of Mathematical principles; and, if required by the Senatus Academicus, to deliver reports on the principal structures examined by him, and the Mathematical principles exemplified thereby; which reports the Senatus may cause to be publicly read in the University or elsewhere in Edinburgh. The next competition will take place in December 1893.

1887. David A. Welsh, M.A.
1890. *James Goodwillie, M.A.*

IX.—BRUCE OF GRANGEHILL AND FALKLAND'S CLASSICAL SCHOLARSHIP.

This Scholarship was founded in 1865 by Mrs Tyndall Bruce of Falkland, is of the annual value of £100, and tenable for three years, during two of which the studies of the Scholar must be prosecuted in the University of Edinburgh, but in the third year they may be prosecuted in an English or Foreign University. By the terms of the Deed of Foundation (given at p. 205 of the CALENDAR for 1866-7), this and the two following Scholarships held by Students who have passed their Examinations for the Degree of Master of Arts with Honours, being hitherto conferred upon the most distinguished in that one of the Honours Departments

which is appropriated for each year. The Scholarship cannot be conferred upon any one whose age exceeds twenty-three years, and it cannot be held with any other Scholarship or Fellowship of a Scottish University, or with any situation yielding an income of £100 per annum. The next award will be made in April 1894.

1888. James G. Goold, M.A. | 1891. *W. G. Wedderspoon, M.A.*

X.—BRUCE OF GRANGEHILL AND FALKLAND'S SCHOLARSHIP IN MENTAL PHILOSOPHY.

This Scholarship was founded in 1865 by Mrs Tyndall Bruce of Falkland, is of the annual value of £100, and is tenable for the same period, and under the same conditions as the preceding. The subjects of examination are Logic and Psychology, Metaphysics, Moral Philosophy, and History of Philosophy. The next award will be made in April 1892.

1886. William Caldwell, M.A. | 1889. *W. G. Smith, M.A.*

XI.—BRUCE OF GRANGEHILL AND FALKLAND'S MATHEMATICAL SCHOLARSHIP.

This Scholarship was founded in 1865 by Mrs Tyndall Bruce of Falkland, is of the annual value of £100, and is tenable for the same period, and under the same conditions as the preceding. The subjects of examination are Mathematics and Natural Philosophy. The next award will be made in April 1893.

1887. James Crocket, M.A. | 1890. *Charles Tweedie, M.A.*

XII.-XIII.—GRAY SCHOLARSHIPS.

These two Scholarships founded by Mr Gray of Baad Park in 1864, are each of the annual value of £44, and tenable for a period not exceeding two years. All candidates must pass the Examination for the Degree of Master of Arts. In making appointments the Senatus are directed to prefer in the first place candidates of the name of Gray ; and secondly, such as have been born in the parishes of Midcalder or Kirknewton. Failing well qualified Candidates, who fulfil these conditions, the Scholarships may be awarded to distinguished candidates for the Degree in Arts in the Honours departments.

The scholars must proceed to study in one of the Faculties of Divinity, Law, or Medicine.

1887. Alex. S. Martin, M.A.
1888. Wm. G. Smith, M.A. (lapsed Scholarship)
1888. William Gray, M.A.
1889. Walter T. Watson, M.A.
1890. Arthur Herbert Gray, M.A.
1891. *W. E. Philip, M.A.*

XIV.—GILCHRIST SCHOLARSHIPS.

These Scholarships were founded in 1865 by the Trustees of the late Dr Gilchrist; they are three in number, each of the annual value of £100, and are open to natives of India who have passed competitive examinations at the Presidential Colleges of India. They are attached to the Medical, Law, and Literary Classes in the University.

XV.-XVII.—MISSES BAXTER OF BALGAVIE'S SCHOLARSHIPS.

These Scholarships were instituted in 1868 and 1878 by Miss Mary Baxter of Balgavie. They are three in number, two of the annual value of £40, the third of £20. They are in the gift of the Directors of the High School of Dundee. They are open for competition to all pupils who shall have finished their course at the time, or within one year previously, at the High School of Dundee. The examination is held at Dundee by examiners appointed by the Directors, and the subjects are Geometry, Algebra, Trigonometry, and Mechanical Drawing. The Scholarships are tenable for one year certain, and for a second if a favourable certificate is sent to the Directors by the Senatus Academicus. The patrons may extend the tenure of these Scholarships for a further period of one year, provided the holder shall have previously passed the First Examination for the Degree of Bachelor of Science in the Department of Engineering in this University. The Classes to be attended in the first year are Mathematics, Natural Philosophy, and Engineering; in the second year Chemistry, Engineering, and the second course of Natural Philosophy, and for the third year any two classes to be selected by the student, and approved by the Senatus.

These Scholarships are not to be held with any other Scholarship, Fellowship, or appointment yielding £50 per annum. *See* Deeds of Foundation, at page 255 of the CALENDAR for 1869-70, at p. 372 of CALENDAR for 1878-79, and at p. 377 of the CALENDAR for 1881-2.

1889. *John R. Dick*

XVIII.-XIX.—FETTES EXHIBITIONS.

These Exhibitions are each of the annual value of £60, and are tenable for four years. They are open annually for competition, one among the Foundationers alone, and the other among the Foundationers and such other pupils as have attended Fettes College regularly for not less than five years.

XX.-XXI.—RHIND SCHOLARSHIPS.

These Scholarships were, in accordance with the will of the late A. H. Rhind, Esq., of Sibster, founded by his trustees on the reversion of his estate. They are two in number, each of the annual value of £98, 10s., and are tenable for at least two or three years. One is in the Department of Classical Literature, the other in that of Philosophy. Candidates who are Undergraduates must have completed at least three Sessions in the regular Curriculum in Arts, and have obtained at least two Departmental Certificates. The successful Candidates may be required to undertake duties connected with the teaching of the University, or otherwise assist in some department of its operations. *See* Deed of Foundation at p. 323 of CALENDAR for 1874-75. The next competition will take place in December 1891.

1888. Wm. Ingram, M.A. (Ph.)
1888. *Thomas R. Mills* (Cl.)
1891. Lapsed Scholarship in Philosophy, *John Davidson.*

XXII.—SCHOLARSHIPS IN MUSIC.

By the will of Signor Theophile Bucher, who died in 1871, his trustees were enjoined (on the death of a liferentrix, who died in March 1889) to pay over the residue of his estate, amounting to about £4000, to the Senatus and Curators of the University for the purpose of founding one or more Scholarships of music to be held by any young men born in Scotland, who may shew a natural talent for music and wish to make it their profession, for the purpose of improving their education, and enabling them to prosecute the study of the science and art of music in Italy, Germany, and France.

XXIII.—THE CHARLES MACLAREN SCHOLARSHIP.

This Scholarship was founded in 1871 by the Trustees of Mrs Maclaren, in memory of Charles Maclaren, Esq., the eminent geologist, is of the annual value of £95, 19s. 2d., and is tenable for three years. It is for the encouragement of the study of Mathematics and Natural Philosophy, and is open to all graduates in Arts of not more than three years' standing at the time of the Competition (and under 30 years of age) who shall have taken honours in Mathematics. The successful competitors are to spend a few months in travelling and in examining remarkable Engineering and Architectural Structures, and to report to the Senatus, which report the Senatus may cause to be publicly read in the University. The Deed of Foundation is given at p. 324 of CALENDAR for 1873-74. The next competition may be in December 1893.

1887. James Goodwillie, M.A.
1890. *Jas. F. M'Kean, M.A.*

XXIV.—NEIL ARNOTT SCHOLARSHIP FOR EXPERIMENTAL PHYSICS.

This Scholarship, value about £38, 10s., was founded in 1874, and is awarded annually to the most distinguished Student in the Physical Laboratory of the University.

The recipient must, during the ensuing Summer and Winter Sessions assist the Professor of Natural Philosophy in the Laboratory. Failing a Student deemed by the Professor worthy of the Scholarship, it may be given to the Candidate for a Degree in Arts who has undergone the Examination in Natural Philosophy with most distinction. *See* Deed of Foundation, at p. 340 of CALENDAR for 1875-76.

1887. { A. J. Herbertson, R. Turnbull, } equal	1889. James Rennie.
1888. J. W. Butters.	1890. P. F. Gillies.
	1891. *T. C. Baillie.*

XXV.-XXVII.—FERGUSON SCHOLARSHIPS.

The examination of Candidates for Three of these Scholarships will be held in Glasgow, on Tuesday, 29th September 1891, and following day. One of the Scholarships to be awarded for the greatest proficiency in Classics; one for the greatest proficiency in Mathematics, including Natural Philosophy; and one for the greatest proficiency in Mental Philosophy, including Logic, Metaphysics, and Ethics.

Subjects for Examination :—

CLASSICAL SCHOLARSHIP.

Latin—

Plautus "Trinummus" and "Amphitruo."	Tacitus, "Annals," Books XI.-XVI.
Virgil, "Aeneid," Books VII.-XII.	Quintilian, Books I., II., and X.
Horace, "Satires" and "Epistles."	Translations from Authors not prescribed.
Cicero, "De Oratore," Books I. and II.	Latin Prose Composition.

Greek—

Homer, "Odyssey, Books V.-XII.	Demosthenes, "De Falsa "Legatione."
Sophocles, "Œdipus," "Coloneus," "Ajax," "Philoctetes."	Aristotle, "Poetics."
Thucydides, Books IV., VI., and VII.	Translations from Authors not prescribed.
Plato, "Gorgias," "Protagoras."	Greek Prose Composition.

QUESTIONS—

(1.) On Language, Greek and Latin.
(2.) On Greek History and Literature, in the 5th and 4th centuries B.C.
(3.) On Roman History and Literature, from B.C. 131 to A.D. 68.

The Questions will bear chiefly on the books prescribed.

MATHEMATICAL SCHOLARSHIP.

Mathematics—Euclid's Elements. Modern Geometry.
Algebra, including Determinants, Finite Differences, and Theory of Equations.
Trigonometry, Plane and Spherical.
Analytical Geometry, in Two and Three Dimensions.
Differential and Integral Calculus, and Differential Equations.

Natural Philosophy—Abstract Dynamics (commonly called Mechanics) including Kinematics and Statics and Kinetics of Solids and Fluids.
Experimental Physics and Applied Mathematics, including all the ordinary subjects treated in Lectures on Natural Philosophy.

PHILOSOPHICAL SCHOLARSHIP.

Logic—Province and History of Logic. Logical Forms of Notions, of Judgments, and of Inferences. Fallacies and their Causes. Evidence. Authority and Historical Proof. Physical Science and its Methods. Recent Discussions affecting Logic.

Metaphysics—Psychology and Ontology. Nature, Origin, and Limits of Man's Knowledge of Self, the Material World, and God. History and Critical Analysis of Ancient and Modern Metaphysical Systems.

Moral Philosophy—Psychology and Metaphysic of Ethics. Moral Faculty, Motives, and Will. Moral Government of the World and cognate Questions. Applied Ethics, including relations of Ethics to Law and Politics. History and Critical Analysis of Ancient and Modern Ethical Theories.

The Competition will be open to all persons who have passed the last of the Examinations required for the degree of Master of Arts in one of the Universities of Scotland (whether taking the degree at the same time or not) within two years immediately preceding, and who have not already gained one of these Scholarships or competed more than once previously for any of them.

The Examinations will be conducted in writing, and the Scholarships awarded on the report of the Examiners as to the merit of the Candidates, but the minimum of 600 out of 1000 marks must be reached in order to entitle to a Scholarship.

The Scholarships of £80 each per annum are tenable for two years, subject to fulfilment of the following Rule of the Trustees :—

> "Persons gaining the Scholarships will, during the tenure thereof, be expected to prosecute studies in furtherance of the higher learning; and those who have not graduated shall be required to do so before the last payment is made. Any case of conduct unbecoming a scholar and a gentleman shall incur forfeiture of the Scholarship, of which the Trustees shall be sole judges."

Certificates will be granted to such of the unsuccessful Competitors as, in the opinion of the Examiners, shall have taken a distinguished position in the Examinations.

Candidates are requested to give in their names, personally or by letter, at the Office of The Ferguson Bequest Fund, 94 Bath Street, Glasgow, now or any time before 1st September 1891, and due intimation will be sent to those enrolled, as to the place and hours of Examination.

The following Students of the University of Edinburgh have obtained Ferguson Scholarships during the last five years :—

1887. James Crocket (Math.)	1888. David Beveridge Mair, Mat.
,, Wm. Caldwell (Ph.)	,, T. E. Sandeman, M.A., Phil.

PRESENT HOLDERS OF THE SCHOLARSHIPS.

1889. *Jas. Cruickshanks Smith*, M.A. of Edin. University. Classics.
,, *Andrew Munro*, M.A. of Aberdeen University. Mathematics.
,, *Evan Kerr Evans*, M.A. of Glasgow University. Philosophy.
1890. *Patrick Duncan*, M.A. of Edinburgh University. Classics.
,, *Abraham Levine*, M.A. of Glasgow University. Mathematics.
,, *Charles Mackinnon Douglas*, M.A. of Edin. Univ. Philosophy.

VANS DUNLOP SCHOLARSHIPS.

TWELVE VANS DUNLOP SCHOLARSHIPS, each of the annual value of £100, and tenable for three years, are, by the Deed of Foundation, appropriated to the following subjects :—1. English Literature and Poetry; 2. Classical Learning—Latin and Greek; 3. Engineering and the Mechanical and Useful Arts; 4. Commercial and Political Economy and Mercantile Law; 5. Logic and Metaphysics; 6. Natural Philosophy; 7. Mathematics; 8. Hebrew and Oriental (Semitic) Languages; 9. History; 10. Moral Philosophy; 11. Sanskrit; 12. Agriculture. In terms of the Trust-Disposition (which is given at p. 380 of Calendar for 1880-81), the Scholarships are given only for "distinguished proficiency" in the various subjects of competition, as determined by the Examiners and the Senatus Academicus.

The following are the General Regulations for the Examinations :—

In the Competitions for these Scholarships, Candidates must have regularly attended in at least one class in the University of Edinburgh during each Winter Session in which they claim to have been Matriculated Students, and no Candidate is eligible who has discontinued attendance at the University for more than one year.

Each Scholarship is tenable on condition that the Scholar submits annually to the University evidence that he is prosecuting his studies, or his professional work, in a manner satisfactory to the Senatus. The evidence may consist of—(1.) Certificates of attendance on Lectures or Laboratories in this or some other University; or (2.) Certificate of having acted as Assistant to a Professor in this or some other University; or (3.) A written Report of work done by the Scholar during the year, together with a Thesis composed by himself on a subject connected with that work.

Not more than one of these Scholarships can be held by the same person, and Vans Dunlop Scholars cannot hold any other Fellowship, Scholarship, or Bursary in the University of Edinburgh.

Candidates for each of the Vans Dunlop Scholarships must enter their names and addresses *at least one month* before the date of the commencement of each examination, at the *Secretary's Office, University, Edinburgh*, and produce evidence that they have fulfilled the conditions as to eligibility of Candidates.

In the case of Scholarships where attendance on classes may be discontinued for not more than one year, Candidates are required to pay the Matriculation Fee for the year in which the competition takes place.

The names of Candidates highly distinguished in the Vans Dunlop Scholarship examinations may be published.

XXVIII.—English Literature and Poetry.

Candidates are subjected to an Examination testing—(1.) Knowledge of the History of English Literature generally, and more particularly through a prescribed period; (2.) Acquaintance with certain books, chiefly of English Poetry, prescribed for special reading; (3.) Ability in English Composition, in the form of an Essay, written in the Examination Room, on some subject of literary criticism.

The Competition is open to all Matriculated Students in the second, the third, or the fourth year of their Matriculation, who have given regular attendance in the Class of Rhetoric and English Literature. The next Competition will take place in April 1894.

The Professor of Rhetoric and English Literature, and an Examiner appointed by the Senatus, are the Examiners.

1888. James C. Smith.
Proxime accessit, Louis G. Irvine
1891. *George Liddell.*

Proxime accesserunt, And. Hamilton, M.A., and *Stewart A. Robertson.*

XXIX.—Classical Learning—Latin and Greek.

1. *Latin*—The Examination will test :—
   (*a.*) Knowledge of Latin books and special subjects previously prescribed.
   (*b.*) Power of Latin Composition, and of translating from Latin authors not previously prescribed.
2. *Greek.*—(*a.*) Knowledge of Greek books previously prescribed.
   (*b.*) Power of Greek Composition, and of translating from Greek authors not prescribed.
   (*c.*) Knowledge of Greek History and Literature.

The Competition is open to Matriculated Students in their second, third, or fourth Session who have completed attendance in the Latin and Greek Classes necessary for graduation in Arts.

Any one who in the previous April may have completed his course for graduation in Arts in three Sessions may take part in the Competition, although not actually a Student in the Session during which the Examination takes place. The next Competition will take place in October 1893.

The Professors of Humanity and Greek are the Examiners.

1887. H. A. A. Kennedy | 1890. *J. A. Norrie*

XXX.—Engineering and Mechanical and Useful Arts.

The Examination is similar to that for the Second B.Sc. Examination for the degree in Engineering, with the addition of questions on prescribed books treating of Engineering and Mechanical and useful Arts.

The Competition is open to all Matriculated Students who have been in regular attendance on the Class of Engineering for at least two Winter Sessions, and who have not been Students of the University for more than four years. The conditions of tenure of this Scholarship may be altered before the next election. The next Competition will take place in April 1894.

The Examiners are the Professors of Engineering and Natural Philosophy.

1888. J. T. Nicolson. | 1891. *J. R. Dick, B.Sc.*

XXXI.—Commercial and Political Economy and Mercantile Law.

(*a.*) Candidates are subject to an Examination testing their knowledge (1.) of Commercial and Political Economy, and (2.) of Mercantile Law—two papers on the former and one on the latter.

(*b.*) The Competition is open to all who have been Matriculated Students for not less than two years, who have not discontinued attend-

ance at the University for more than one year, and who have regularly attended the Class of Commercial and Political Economy and Mercantile Law. The next Competition will take place in October 1891.

(*c.*) The Professor of Political Economy and an Examiner nominated by the Senatus are the Examiners.

1888. *And. H. B. Constable, M.A.*
Prox. access., J. M. Irvine, M.A., B.Sc.

XXXII.—Logic and Metaphysics.

The Examination will test knowledge of (*a.*) Psychology, (*b.*) Logic, (*c.*) Metaphysics and the History of Philosophy. It will include the subjects embraced in the Lectures on each of these branches; also prescribed Reading and Studies of special subjects.

The Competition is open to all who have been Matriculated Students for not less than two nor more than six years, who have not discontinued attendance at the University for more than one year, and who have regularly attended the Junior and Advanced Classes of Logic and Metaphysics. The next Competition will take place in April 1894.

The Professor of Logic and Metaphysics and the Professor of Moral Philosophy are the Examiners.

1888. Thomas E. Sandeman, M.A. | 1891. *Henry Barker, M.A.*

XXXIII.—Natural Philosophy.

The Examination will test the knowledge of the Candidates in Experimental Physics and Applied Mathematics. The Competition is restricted to Matriculated Students who have passed at least two and not more than six Sessions at the University, and who have attended the classes of Natural Philosophy. The next Examination will take place in April 1892.

The Professor of Natural Philosophy and an Examiner appointed by the Senatus are the Examiners.

1889. *A. W. Duff, M.A.*

XXXIV.—Mathematics.

The Examination will test Candidates in pure mathematical subjects in the Honours Department for the Degree of Master of Arts, and in special subjects to be prescribed by the Examiners from time to time. The Competition is confined to Matriculated Students who have passed at least two and not more than six complete Sessions at the University of Edinburgh, and who have attended at least two of the Mathematical Classes, one of these being the third or Advanced Class. No student is eligible who has discontinued attendance at the University for more than a year. The next Examination will take place in April 1892.

The Professor of Mathematics and an Examiner appointed by the Senatus are the Examiners.

1889. *J. I. Craig, M.A.*

XXXV.—Hebrew and Oriental (Semitic) Languages.

The Competition is open to all Matriculated Students (*a*) who have regularly attended Classes in the University for not less than two and not more than seven years, (*b*) who have attended at least two courses under the Professor of Hebrew and Oriental Languages, and (*c*) who have not discontinued attendance at the University for more than one year.

Candidates will be examined in Hebrew, Syriac, and Arabic.

The Examiners are the Professor of Hebrew and Oriental Languages, and an Examiner to be appointed by the Senatus. The next Competition will take place in 1893.

The conditions of tenure are the same as those applicable to the other Vans Dunlop Scholarships in Arts.

1887. John Mair, M.A.

1890. *James Thomson, M.A.* and *Charles H. Titterton, M.A.* equal.

XXXVI.—History.

The Competition is open to all Matriculated Students who have regularly attended classes in the University for not less than two and not more than six years, who have also attended one or more courses of Lectures either by the Professor of History or by the Professor of Ecclesiastical History, and who have not discontinued attendance at the University for more than one year.

The Scholarship will be awarded by competitive examination. The Examiners are the Professor of History, the Professor of Ecclesiastical History, and either the Professor of Humanity or the Professor of Greek. The next Competition will take place in October 1892.

1889. *David P. Heatley.*

XXXVII.—Moral Philosophy.

The Competition is open to all who have been Matriculated Students for not less than two nor more than six years; who have not discontinued attendance at the University for more than one year; who have regularly attended the Ordinary and Advanced Classes of Moral Philosophy.

The Professor of Moral Philosophy and the Professor of Logic and Metaphysics are the Examiners. The next Competition will take place in April 1892.

1888. (Lapsed) W. B. Tough, M.A.
1889. Charles M. Douglas, M.A.

1890. *W. B. Ingram, M.A.*
(Lapsed Scholarship for 1 year.)

XXXVIII.—Sanskrit and Comparative Philology.

The Competition is open to all Matriculated Students who have regularly attended classes in the University for not less than two and not more than seven years; who have also attended at least two courses under the Professor of Sanskrit and Comparative Philology, and who have not discontinued attendance at the University for more than one year.

The Examiners are the Professor of Sanskrit and Comparative Philology, and another Examiner to be appointed by the Senatus. The next Competition will take place in April 1892.

1886. James Waters, M.A. | 1889. *Hermann Walter.*

XXXIX.—Agriculture and Rural Economy.

This Scholarship is open to all Matriculated Students who have regularly attended classes in the University for not less than two and not more than six years, and who have attended the Class of Agriculture and Rural Economy within two years of the date of Competition. The subjects of Examination are Agriculture, Chemistry, Botany, and Veterinary Science. The next Competition will take place in April 1892.

The Examiners are the Professor of Agriculture and an Examiner nominated by the Senatus.

1886. William Somerville | 1889. *Thos. H. Middleton, B.Sc.*

XL.—SKIRVING SCHOLARSHIP FOR MORAL PHILOSOPHY.

This scholarship is to be founded (after the death of an annuitant) in accordance with the Will of the late David Skirving, of No. 13 Westbourne Park, London. It will be of the annual value of about £50, and tenable for three years. *See* Deed of Foundation at p. 350 of Calendar for 1876-77.

XLI.-XLIV.—LANG SCHOLARSHIPS.

This is a Bequest by the late John Lang, Esq. of Warren Park, Ayrshire, with the object of founding four Scholarships, to be called the "Lang Scholarships," one in Natural Philosophy, one in Mathematics, one in Chemistry, and one in Botany. The capital sum will be payable on the death of the survivor of two liferenters.

XLV.—STEVEN SCHOLARSHIP IN AGRICULTURE.

This Scholarship was founded in 1882 by the Misses Steven of Bellahouston in memory of their brother Moses Steven, Esq. It is of the value of £75, and is awarded annually, in connection with the Class of Agriculture, the subjects of examination being Agriculture and General and Agricultural Chemistry.

The Scholar is required to visit the annual exhibitions of the four leading agricultural societies, or such as the Professor of Agriculture shall appoint, and to report on his visit or visits to the satisfaction of the Professor of Agriculture. The Exhibitions which the Scholar is required to visit are:—

The Royal Agricultural Society of England.
The Bath and West of England Agricultural Society,
The Highland and Agricultural Society of Scotland.
Royal Agricultural Society of Ireland.

See Deed of Foundation at p. 397 of CALENDAR for 1882-83.

1886. Robert Haig
1887. T. H. Middleton
1888. John J. Jeffrey
1889. Douglas A. Gilchrist
1890. Henry Crabtree
1891. *John Campbell*

XLVI.—MACKAY SMITH SCHOLARSHIP IN NATURAL PHILOSOPHY.

This Scholarship is of the annual value of £25, tenable for two years, and is open for competition to Students who have attended the Class of Natural Philosophy in this University. The successful candidate is required to attend the class of Natural Philosophy, or to prosecute the study of Natural Philosophy, during at least one year of his tenure of the Scholarship, in such way as the Senatus may direct or approve. The next award may be made at the end of Winter Session of 1891-92.

1887. D. B. Mair, J. Crocket } equal
1888. Alex. Wilmer Duff, M.A.
1889. J. F. M'Kean, M.A.
1890. *James Holm.*

IV.—FELLOWSHIPS.

I.—GUTHRIE FELLOWSHIP IN CLASSICAL LITERATURE.

This fellowship was founded in 1866 by James Guthrie, Esq., London. It is of the annual value of £93, 15s., and is tenable for four years. By the terms of the Deed of Foundation (given at p. 210 of the CALENDAR for 1866-7) it is for proficiency in Classical Literature, and is tenable by Graduates in Arts of the University who have taken their Degree since the last competition. Students who have passed all their examinations for a Degree since the last competition, but have deferred graduating, are also eligible. This Fellowship cannot be held along with any other Fellowship or Scholarship in a Scottish University. The next Competition will take place in December 1894.

1886. Norman Maclean, M.A.
1890. *J. C. Smith, M.A.*
1890. *James Watt, M.A.* (Lapsed Scholarship for two years)

II.—SIR WILLIAM HAMILTON FELLOWSHIP IN MENTAL PHILOSOPHY.

This Fellowship was founded in 1866 by the Subscribers to the fund for a Memorial to the late Professor Sir William Hamilton, and by the Association for the better endowment of the University, and is of the annual value of £97, 5s., tenable for three years. By the Deed of Foundation (given at p. 213 of CALENDAR for 1866-67), the Fellowship is open to all Graduates in Arts in the University of Edinburgh of not more than three years' standing at the time of the competition. It cannot be held along with any other Scholarship or Fellowship in a Scottish University. The subjects of examination are Logic, Metaphysics, Moral Philosophy, and the History of Philosophy. The next Competition will take place in December 1893.

1887. William Caldwell, M.A.
1888. J. Lorrain Smith, M.A.
1890. *C. M. Douglas, M.A.*

III.—SHAW FELLOWSHIP IN MENTAL PHILOSOPHY.

This fellowship was founded in 1867 by Contributors to a Memorial to Sir James Shaw, Bart., a native of Ayrshire, afterwards Lord Mayor of, and M.P. for London. It is of the annual value of £161, 12s. 6d., tenable for a period not exceeding five years, and is in the patronage of the Senatus Academicus of the University of Edinburgh. This Fellowship is designed for the encouragement of the study of Logic, Psychology, Metaphysics, Moral Philosophy, and the History of Philosophy, and is awarded after competitive examination on these subjects. It is open to Graduates in Arts of any of the four Scottish Universities, of not more than five years' standing at the time of the competition, and is tenable for five years. It cannot be held along with any other Fellowship, Scholarship, or Bursary in any Scottish University, and it is not open to the competition of any person who already holds a Fellowship in any English or Irish University, though the holder of the Shaw Fellowship will not be precluded from afterwards obtaining an English or Irish Fellowship. The holder is required during the fourth or fifth year of his tenure of the Fellowship to deliver in this University a Course of four Lectures on any of the subjects for the encouragement of the study of which the Fellowship was founded. The first Series of the Shaw Lectures was delivered in 1873 by the Rev. Professor Lindsay, on "William of Occam, and his position in Mediæval Philosophy"—not published. The second series, "On the Philosophy of Kant," was delivered by Professor Adamson in January 1879, and is published. The third series was delivered by Mr W. R. Sorley in January 1884 on the "Ethics of Naturalism"—is also published. The next Competition for the Fellowship will take place on

20th and 21st December 1893. (Deed of Foundation, p. 237 of CALENDAR for 1868-9.)

1888. *William Caldwell, M.A.*
Proxime accessit, J. Lorrain Smith, M.A.

WILLIAM DICKSON TRAVELLING FUND.

This Fund (the interest of which amounts to about £100 per annum) has been established for the purpose of assisting Graduates of any Faculty, of not more than Three Years' standing, to travel, for a shorter or longer period, for purposes of study or research. Grants from the Fund may be made to holders of Scholarships, Bursaries, &c.

Applicants are required to state—"(1) The purpose for which the Applicants desire to get a Grant for travelling; (2) the total amount of expenditure thought necessary; (3) the other means they have towards meeting this expenditure; and (4) the amount of the Grant required from the Fund."

The award of a grant to be based on—"(1) The importance of the work proposed to be undertaken; (2) the sufficiency of the means proposed to be applied to the work; (3) the capability of the Applicants for the work they respectively propose to undertake."

"Holders of Grants in all cases to satisfy the Senatus by periodical reports that they are carrying out satisfactorily the work or investigation undertaken; and to present a final report, or to deliver a course of public University Lectures on their work when completed."

Applications must be lodged with the *Secretary of Senatus* on or before 15th March annually.

For Deed of Endowment, see p. 514 of CALENDAR 1889-90.

1887. Herbert F. Waterhouse, M.B., C.M.; Malcolm Laurie, B.Sc.; W. W. D. Campbell, M.A.; John F. Ewen, B.Sc.; J. J. Cook, M.A., LL.B.

1890. William Thompson, M.A.; G. W. Wilton, B.L.: W. Findlay, M.A.

1891. *David Anderson, M.A., LL.B.; Alexander Grieve, M.A.; W. Allan Neilson, M.A.; Archibald Paterson, M.A.*

SCHOLARSHIPS, UNIVERSITY PRIZES, AND BURSARIES, OPEN FOR COMPETITION IN THE FACULTY OF ARTS DURING THE ACADEMIC YEAR COMMENCING 1ST OCTOBER 1891.[1] [2]

Scholarships.[2]

1. *John Edward Baxter Scholarship in Mathematics* (V., p. 211).
2. *Rhind Classical Scholarship* (XX., p. 214).
3. *Rhind Philosophical Scholarship* (XXI., p. 214).

Candidates for the foregoing Scholarships must give their names and addresses to the *Clerk of Senatus, University, Edinburgh*, before 1st December. The examinations will commence at ten o'clock on *Friday, the 18th of December* 1891, and be continued on following days, at the same hour, in the *Examination Hall* of the University.

Seven Vans Dunlop Scholarships.—Each Scholarship is of the annual value of £100, and is tenable for three years. For General Regulations for the Scholarships, see page 218.

4. *Vans Dunlop Scholarship in Commercial and Political Economy and Mercantile Law*, open to all who have been Matriculated Students for not less than two years, who have regularly attended the class of Political Economy (XXXI., p. 219).

The works on Political Economy recommended to Candidates are:—
Adam Smith's *Wealth of Nations.*
Sidgwick's *Principles of Political Economy.*
Bastable's *Theory of Foreign Trade.*
Nicholson's *Money and Monetary Problems.*
Cunningham's *Growth of English Industry and Commerce.*
List's *National System of Political Economy.*
Nicholl's *History of the English Poor Law;* and *History of the Scotch Poor Law.*
Rae's *Contemporary Socialism.*
Those on Mercantile Law:—
Bell's *Commentaries*, Book ii., part 3, chap. 2.
" " Book iii., part 1, chap. 2, sec. 4.
" " " " chap. 3, sec. 1.
Benjamin on Sales (3rd ed.).
Smith's *Mercantile Law* (10th ed.).
Chalmers's *Bills of Exchange* (3rd ed.).

The Competition will take place after the Graduation Examinations in Law in October 1891.

[1] *N.B.*—The values of the Scholarships, Bursaries, and Prizes are subject to variation consequent on the rise and fall of the rate of interest, &c.

[2] For further information, and for information regarding Fellowships and other Scholarships, Bursaries, and Prizes, see under the head Scholarships, &c.

5. *Vans Dunlop Scholarship in Natural Philosophy* (XXXIII., p. 220). The Examinations will begin on 9th April 1892, at 9 A.M., and will be (in as far as convenient and practicable) combined with the Examination for Honours in the Department of Mathematics.

6. *The Vans Dunlop Scholarship in Mathematics* (XXXIV., p. 220). In addition to the ordinary Honours' Examination, papers will be set on special subjects. The questions, some of which will be texts for short dissertations, will be set so as to allow the candidate to specialise his reading in one or other of the following lines :—(*a.*) Higher Algebra (Salmon, I.-XVII.), Higher parts of Differential and Integral Calculus —for example, Definite Integrals, Fourier's Theorem, Elliptic Integrals, Differential Equations (Forsyth) ; (*b.*) Theory of Invariants (Salmon, I.-XVII.), Projective Geometry, Higher Plane Curves (Salmon, Chapters I.-V.); Geometry of Three Dimensions (Salmon, Chapters I.-XIII.) The Professor of Mathematics will give advice regarding a course of reading for the examination. The Examination will begin on 8th April 1892, at 9 A.M.

7. *Vans Dunlop Scholarship in History* (XXXVI., p. 221). The next competition will take place on the third Monday, Tuesday, and Wednesday of October 1892, beginning at 10 A.M. each day. The subjects prescribed are :—

(1.) "History of Great Britain from 1714 to 1820."
(2.) "History of Scotland for a century and a half before the Union."
(3.) "History of Greece from B.C. 500 to B.C. 400, with special reference to the growth of the Athenian Constitution."
(4.) "History of France under Louis XIV."

8. *Vans Dunlop Scholarship in Moral Philosophy* (XXXVII., p. 221). The Competition will begin on 9th April 1892, and the Examination will test the Knowledge of (*a*) Moral Philosophy ; (*b*) History of Moral Philosophy; (*c*) the relations of Intellectual and Ethical Schemes of leading thinkers ; (*d*) Recent Ethical Literature. The Examination will be equivalent to the Honours Examination in Moral Philosophy :—

9. *Vans Dunlop Scholarship in Sanskrit and Comparative Philology* (XXXVIII., p. 222).

The next Competition will take place at the *close of Session* 1891-92.

The following are the subjects of Examination :—

SANSKRIT.

Hitopadeśa, Book I.
Raghuvaṃśa, canto i.
Śakuntalā.
Meghadūta.
Grammar. Easy passages for translation into Sanskrit.
Some knowledge of the history of Sanskrit literature.

COMPARATIVE PHILOLOGY.

Delbrück, Introduction to the Study of Language.
Schleicher, Compendium of Comparative Grammar.
Brugmann, Elements of Comparative Grammar; with Some knowledge of recent phonetic theories.

10. *Vans Dunlop Scholarship in Agriculture* (XXXIX., p. 222). The subjects of examination are Agriculture, Chemistry, Botany, and Veterinary Hygiene. The examination will take place on 4th and 5th April 1892. *4th April*, Agriculture, 9; Chemistry, 11.30. *5th April*, Botany, 9; Veterinary Hygiene, 11.30.

11. *Gray Scholarship* (XII., p. 212) of £44 a-year, tenable for two years, to be awarded at graduation in *April* 1892.

12. *Neil Arnott Scholarship for Experimental Physics* (XXIV., p. 215) of £38, 10s., is awarded annually to the most distinguished student in the Physical Laboratory.

13. *Steven Scholarship in Agriculture* (XLV., p. 222).

14. *The Mackay Smith Scholarship in Natural Philosophy* (XLVI., p. 223). The Examination will begin on 9th April 1892, at 9 A.M. Names of Candidates to be entered at the Secretary's Office on or before 18th March.

15, 16, 17. *Three Ferguson Scholarships* (XXV., XXVI., XXVII., p. 215).

18. *Bruce of Grangehill and Falkland's Philosophical Scholarship* (X., p. 212).

University Prizes in Arts.

1. The *William Dickson Travelling Fund* (p. 225).

2. The *Lord Rector's Prize*, of twenty-five guineas, for the best Essay on "How far ethical considerations should enter into the domain of the Science of Political Economy" (I., p. 207). The Prize is open to Students of the University, and to Graduates of not more than two years' standing. Essays to be lodged with the Secretary of Senatus on or before 1st November, each Essay to be sent anonymously, distinguished by a motto, and accompanied by a sealed envelope containing the name, address, and University standing of the Candidate.

3. *Bruce of Grangehill and Falkland's Prize* (III., p. 207).

4. *Neil Arnott Prize* (IV., p. 452).

5. *Cousin Prize in Fine Art* (VII., p. 209).

6, 7, 8. *Three Gray Prizes* (IV., p. 207).

9. A Prize of Twenty Guineas, offered by the *Edinburgh University*

Club of London, for the best Essay on "The Education of our Legislators" (II., p. 207). Essays to be lodged with the Secretary of Senatus on or before 31st December 1891, each bearing a motto, and accompanied by an envelope containing the name, address, and University standing of the Candidate.

10. *Dr Muir's Prizes* in Sanskrit and Comparative Philology (V., p. 208).

11 and 12. *Two Newton Bursaries or Prizes*, one in *Mathematics* and one in *Natural Philosophy* (LXXIV., pp. 196, 204).

Bursaries in Arts.

The Annual Competitive Examinations for Bursaries in Arts will commence on *Saturday, the 17th of October* 1891, at Nine o'clock, in the *Examination Hall* of the University, and will be continued on the following *Monday*, at the same hour.

The names of the successful Candidates, and of others distinguished in the competition, will be published, in the order of merit, in the University Calendar, along with the names of schools from which they come, provided that they have matriculated and enrolled in the necessary classes for 1891-92.

FOR STUDENTS ENTERING THE FIRST SESSION IN ARTS.

1 and 2. *Two John Welsh Classical Bursaries*, annual value £20 each, tenable for not more than four years—open. Subjects of examination—Latin, Greek, English.

3 and 4. *Two John Welsh Mathematical Bursaries*, annual value £20 each, tenable for not more than four years—open. Subjects of examination—Mathematics, especially Pure Geometry. (Candidates are recommended to read Macdonald's *Higher Geometry*, Wilson's *Solid Geometry and Conic Sections*, and Casey's *Sequel to Euclid*, as partly indicating the scope of the examination in Geometry. What will be looked for is, not so much exhaustive knowledge of all the more intricate theorems, as a thorough knowledge of such as are more elementary and fundamental in their character, and ability to apply these in fairly straightforward exercises.)

5-9. *Five George Heriot Bursaries*, each of the value of £30 a year, tenable for three years—open. Subjects of examination:—(1) Latin; (2) Elementary Mathematics; (3) English; (4) Greek; (5) French and German; (6) Higher Mathematics. Each Candidate must take up subjects (1), (2), and (3), and must attain the pass standard in at least two of these subjects. He may, in addition, take up two, but not more than two, of subjects (4), (5), and (6). The examinations in English, Latin, Greek, and Elementary Mathematics will be the ex-

aminations in those subjects at the University Entrance and Bursary Examinations. The examination in Higher Mathematics will be that in Pure Geometry for the John Welsh (Carlyle) Mathematical Bursaries. The examinations in French and German will take place in the University, on Friday, 16th October—French at 9 A.M., and German at 1 P.M.; and an additional examination in Mathematics on Tuesday, 20th October, at 9 A.M. Applications for these Bursaries must be made to the *Governors of George Heriot's Trust, Edinburgh*, not later than the 1st of October. Candidates who desire to be examined in French and German, or in Higher Mathematics, are required to state so in making application.

10, 11, 12. *Three Whitelaw Bursaries*, of about £22, 6s. 4d. each, tenable for three years.

13, 14. *Two University Endowment Association Bursaries*, of the annual value of £20, tenable for not more than three years.

15. *One Tyndall Bruce Bursary*, annual value £20 a-year, tenable for three years.

16. *One Sibbald Bursary*, of the annual value of £30, tenable for not more than four years. Names of Candidates to be sent to Messrs Mackenzie, Innes & Logan, W.S., 23 Queen Street, Edinburgh.

17. *Thomson Bursary*, £25 a-year, tenable for not more than four years. Apply to Messrs Traquair, Dickson, & Maclaren, W.S., 11 Hill Street, Edinburgh, who will give information.

18. *Mann Bursary*, of £26, 13s. 4d. a-year, tenable for three years. Candidates must be sons of residents in the town of Nairn, *i.e.*, one or other of their parents must have resided within the municipal boundaries for at least twelve months at some period prior to the competition.

19. *Bailie Cousin's Bursary*, annual value about £27, tenable during course in Arts.

20. *Mackinnon Bursary*, of £18, 15s. a-year, tenable for not more than three years. Candidates must be natives of the Counties of Argyll, Bute and Arran, Inverness, Ross, or Sutherland, and must be examined in Gaelic.

21, 22, 23. *Three Grierson Bursaries*, one of £24, and two of £20 a-year each, tenable for four years—restricted in the first place to natives of the parishes of Crawford and Leadhills.

24. *Johnston of Harthope Bursary*, of about £18, 15s. for four years —restricted in the first place to natives of Moffat and Peebles, and those of the name of Alexander or Johnston preferred.

25. *One Jardine of Thorlieshope Bursary*, of the annual value of £38, 2s., and tenable for four years. Natives of the rural districts of Roxburghshire and Dumfriesshire to be preferred. The Bursars are required to attend the classes necessary for the Degree in Arts, and to take the Degree at the end of the course. In the event of

there being no first year Students, the Bursary will be thrown open to competition for one year only to second, third, or fourth years' Students in succession.

26. *Renton Bursary*, of about £18, 8s. 6d., tenable for one year, is for a Student pursuing his studies in the classes of Natural Philosophy, Mathematics, Chemistry, and Political Economy, or such of these classes as he may consider proper, and whose circumstances may require such assistance. The Bursary cannot be held by any one under the age of sixteen or above twenty-one. The Bursar shall cease to hold this Bursary if during the same session he shall be appointed to another Bursary of the value of £30 or upwards. The Examination is in English and Elementary Mathematics, and will take place on Saturday, November 7, at 10 o'clock. Names of Candidates to be entered at the Secretary's Office, on or before 3rd November.

27. The *Donald Fraser Bursary*, for high merit in University Class of Natural Philosophy combined with proficiency in Laboratory Work, may be awarded in 1891-92.

The subjects of examination for Bursaries Nos. 1 to 19, inclusively, in the above list, are Latin, Greek, Mathematics, and English Grammar and Composition; except Nos. 1 and 2, for which Mathematics is not required; 3 and 4, in which the examination is exclusively in Mathematics; and 5-9, in which additional subjects are stated above. The examinations will be held as follows:— *Saturday*, 17*th October*, Latin, 9; Greek, 1. *Monday*, 19*th*, Mathematics, 9; English, 1. Higher Mathematics, for the John Welsh Mathematical and Heriot Bursaries, *Tuesday*, 20*th*, at 9 A.M. *No special books prescribed or announced to Candidates.*—The examinations in Latin and Greek include the papers set at the same time for the Three Sessions' Curriculum, so that Candidates for the latter may compete also for the Bursaries; and the examinations in Mathematics in like manner include those for the Entrance Examination in Mathematics.

EXAMINATION FOR PREFERENTIAL BURSARIES. — Preferential Candidates for Nos. 20 to 25 inclusively, must enter their names and addresses, and lodge evidence of their preferential claims, at the Matriculation Office, University, Edinburgh, *on or before* 1*st October*. If no Preferential Candidates are then announced for the Bursaries, they will be disposed of, in open competition or otherwise, in terms of the Deeds of Foundation.

Preferential Candidates will be tested by an examination (*more elementary than that required for the Three Sessions' Curriculum*) in Latin, Greek, Mathematics (including Arithmetic), and English. The Examination in Latin and Greek will include easy unseen passages for translation into English, Grammatical questions, a simple piece of English for Latin Prose, and some easy sentences to be translated into Greek. This Examination will be held in the University, on *Saturday*, 24*th October* 1891, Latin, 9 A.M.; Greek, 10.30; Mathematics, 1 P.M.;

English, 2.30; Gaelic for No. 19, 20th October, at 9 A.M. (If any Preferential Candidates desire *also* to take a Three Sessions' Curriculum, or to compete for open Bursaries, they must *likewise* present themselves at the Three Sessions' Curriculum examination, on the 17th of October, but not otherwise.) County Clubs, &c., which prefer this examination, may avail themselves of it for their candidates, giving due intimation of this at the Matriculation Office, or to the Dean of the Faculty of Arts.

FOR STUDENTS ENTERING THE SECOND SESSION IN ARTS.

1. *Tyndall Bruce Bursary*, £35 a-year, for three years—open.

2. *One Stewart Bursary*, £10 a-year, for three years—open.

The subjects of examination for *Second* Session Bursaries are Latin, Greek, and Mathematics.

The following subjects are prescribed for the examinations in Latin and Greek:—*Latin*—Lucretius, Bk. i.; Martial (Selections by Sellar and Ramsay), Bks. i., ii., iii.; Cicero, *De Oratore*, Bk. ii.; Latin prose composition. *Greek*—Homer, *Iliad*, xxi., xxii.; Sophocles, *Antigone* and *Ajax:* Thucydides, Bk. iii.; Greek prose composition.

3 and 4. *Two Spence Bursaries*, each of the annual value of £30 for first year and £40 for second year of tenure, open to Students who have studied in the University of Edinburgh, at the commencement of their second session in a three years' curriculum, and of their third session in a curriculum of four years. Examination in Latin, Greek, Mathematics, and British History, to be held at St Andrews in October. Candidates apply to Messrs A. & H. Patullo, Writers, 11 Bank Street, Dundee, for particulars.

FOR STUDENTS ENTERING THE THIRD SESSION IN ARTS.

1. *Horsliehill Scott Bursary*, of £38, 8s. 8d. a-year, for two years—open.

2. *Harrison Bursary*, of £34, 13s. 8d. a-year, tenable for two years.

3. *Macpherson Bursary*, of £42, 18s. 6d. a-year, restricted to Students who are natives of the Highlands and acquainted with Gaelic, tenable for two years. Candidates must present evidence of Highland birth, and be examined orally in Gaelic on Friday, 16th October, at 1 P.M., as a preliminary to their names being placed on the list of Candidates.

The subjects of examination for *Third* Session Bursaries are Classics, Mathematics, and Logic with Psychology.

The following subjects are prescribed for the examination in Classics:—Tacitus, *Annals*, Book iii.; Lucretius i.; Thucydides, Book iii.

No special books prescribed for Mathematics, or for Logic with Psychology. Candidates should revise the lectures and text-books in these classes.

The Examinations for Second and Third Year Bursaries will take place as follows:—*Saturday, 17th October*—Latin, 9 A.M.; Greek, 1 P.M. *Monday, 19th October*—Mathematics, 9 A.M.; Logic and Psychology, 1 P.M.

3, 4, 5. *Three Simson Bursaries*, of £25 each, tenable for four years, for Students entering on the third year of the course in Arts who are studying for the Ministry of the Church of Scotland. For conditions of tenure and subjects of Examination apply to the Rev. Dr Langwill, Currie, or to the Rev. John Patrick, Greenside, Edinburgh.

N.B.—The names and addresses of Candidates for First, Second, and Third Session Bursaries must be announced at the "*Matriculation Office, University, Edinburgh,*" not later than the 10th of October 1891, and those of Preferential Candidates not later than the 1st of October.

Candidates for the *Three Sessions' Curriculum Examination* in Latin and Greek, or for the *Entrance Examination* in Mathematics, are not required to give any intimation.

In the Competition for Bursaries, Students who matriculate and enter the Classes in the Curriculum of Arts for the first time in this or any Scottish University, and such only, are considered Students of the *first* session; and in like manner all and only Students who matriculate and enter the Classes of the Curriculum for the second and third time respectively, are considered Students in their *second* and *third* sessions respectively.

Town Council Bursaries.—Candidates for Bursaries in the gift of the Town Council, many of which are vacant early in October, are referred to the "*City Clerk, Council Chambers*, Edinburgh," to whom early application should be made.

County Club and Private Bursaries.—Candidates for Bursaries instituted by various County Clubs are referred to the respective Secretaries of those Clubs. Information as to Private Bursaries may be obtained from the Patrons or from their Agents.

The attention of all Bursars in the Faculty of Arts is particularly called to the following Regulation:—

"Bursars connected with the Faculty of Arts must annually attend, in the order required by the Dean, at least two of the Classes necessary for the Degree of Master of Arts, and must present themselves at the Departmental Examinations necessary for that Degree.

"Each Bursar must present a Certificate, signed by the Dean, attesting his regular attendance on the proper Classes in the Faculty of Arts, on each occasion on which he applies to the Factor for a payment."

Certificates, in terms of this regulation, will be given to Bursars, by the *Dean of the Faculty of Arts*, after the 11th November; also at the end of the Session in April. In applying to the Dean for the Certificate in November, Bursars must present to him their Class Cards for the Session, as evidence that they have enrolled in their classes; and at the end of the Session they must present to him certificates from the Professors that they have attended with regularity and made progress in their studies. Payments are made by the Factors for the University, "Messrs John Cook and Henry Cook, W.S., 61 North Castle Street, Edinburgh," on and after 18th May for the Whitsunday payments, and on and after 14th November for the Martinmas payments,—between 10 and 3 o'clock.

N.B.—*Bursars, Scholars, and Fellows who desire to resign should at once announce this to the Factor. They must apply to the Factor for the instalments due to them within three months after they have become payable, otherwise they will be regarded as having resigned.*

G. CHRYSTAL, LL.D.,
Dean of the Faculty of Arts, and
Professor of Mathematics.

II.

FACULTY OF DIVINITY.

1891-92.

Dean.

PROFESSOR MALCOLM CAMPBELL TAYLOR, D.D., &c.
6 *Greenhill Park.*

Programme of Classes.

—o—

FACULTY OF DIVINITY.

Dean—Professor TAYLOR.

Introductory Lecture by Professor Charteris, on Tuesday, 3rd November, at Twelve o'clock.

Classes.	Days of Opening, and Hours of Lectures.	Professors.	Class Fees.
Divinity.....	4 Nov., 12 o'cl.	Prof. Flint, ...	£3 3
Ecclesiastical History.	4 Nov., 11 ,,	Prof. Taylor,....	3 3
Biblical Criticism.....	4 Nov., 10 ,,	Prof. Charteris,.	3 3
Hebrew—Junior Cl. .	4 Nov., 1 ,,	Prof. Adams, ...	3 3
Senior Cl. .	4 Nov., 2 ,,	.....	3 3
Arabic and Aramaic.. (*Mond., Wed., & Frid.*)	11 Nov., 3 ,,	.....	3 3

THE SUMMER PREPARATORY CLASS IN ELEMENTARY HEBREW, conducted by the Class-Assistant under the superintendence of the Professor, opens on 4th May, at 10 A.M. Fee—£1, 11s. 6d.

GIFFORD LECTURESHIP, for "promoting, advancing, teaching, and diffusing the study of Natural Theology in the widest sense of that term." *Lecturer*—Sir GEORGE G. STOKES, Bart.

This Course of Lectures will be delivered during Session 1891-92.

Class-Assistant in Hebrew and Oriental Languages, . . . } JOHN WILLIAM MURRAY.

Examiners for Degree of B.D., { THOMAS A. BICKERTON, B.D.
WILLIAM HASTIE, B.D.

Curriculum

FOR THE

MINISTRY IN THE CHURCH OF SCOTLAND.

The Laws of the Church of Scotland require that every Theological Student, who desires to qualify himself for the Ministry, should attend the Class of *Divinity*, either during *three full and regular Sessions*, or during *two regular and three partial Sessions*;—and also that he should regularly attend during two Sessions each of the Classes of *Hebrew*, *Ecclesiastical History*, and *Biblical Criticism*.

Entrance Examinations.

(1.) Students, before enrolment *for the first year* of their curriculum with a view to the Ministry in the Church of Scotland, must produce to the Professor of Divinity Certificates of their having satisfactorily undergone an Examination in the subjects embraced in the *Curriculum of Arts*, and also in the Elements of Hebrew Grammar. By Act IX. of General Assembly 1872, it is ordained that this Examination shall be conducted at each of the four Scottish Universities, shortly before the commencement of every Session, by four Examining Committees, consisting of members elected by the adjoining Synods, with Conveners nominated by the General Assembly. *The Convener of the Committee for the University of Edinburgh is the Rev. John Alison, D.D., Minister of Newington.* The time of the Committee's meeting

and the prescribed subjects of Examination will be timeously advertised in the *Missionary Record* of the Church of Scotland.

(2.) Students, before enrolment at the beginning of *every Session after the first* of their course in Divinity, must produce certificates of their having satisfactorily undergone the Examinations prescribed by their respective Presbyteries. For subjects of Examination prescribed by the *Presbytery of Edinburgh*, see *Appendix to Calendar.*

Discourses.

Every Student of Divinity is required during his curriculum to deliver with approbation *six* Discourses upon subjects prescribed by the Professor of Divinity, viz., a Homily, a Latin Exegesis, a Lecture, a popular Sermon, a Hebrew Exercise on a passage of the Old Testament, and an Exercise with additions on a passage of the Greek New Testament.

The following Regulations have been made by the Faculty of Theology in regard to the delivery of these Discourses. (1.) Students of the *first* year shall give in their *Homily* to the Professor of Divinity not later than 1st February : (2.) Students of the *second* year shall give in their *Latin Exegesis* not later than the 24th December, and shall be prepared to deliver their *Lecture* not later than the 3d January; (3.) Students of the *third* year shall give in their *Hebrew Exercise* and their *Greek Exercise* with additions, not later than the 24th December, and shall be prepared to deliver their *Popular Sermon* not later than the 2d of February.

Attendance at Foreign Universities.

The General Assembly of 1868, with the consent of a majority of Presbyteries, enacted and ordained :—(1.) That all candidates for the ministry shall attend during at least *two sessions* the Theological Classes at one or more of the Universities of Scotland, and shall deliver, with approbation, the Six Trial Discourses required by the Acts of the General Assembly; and (2.) That any Student who wishes to prosecute the remainder of his Theological Curriculum at any Protestant University or

Universities not within the bounds of this Church, shall, before repairing thither, undergo satisfactory examination by the Presbytery with which he is connected, and shall, moreover, satisfy the same Presbytery in regard both to the Classes which he proposes to attend, and to the proficiency he has acquired in the language used in the Foreign University in which he intends to study.

Courses in the Faculty of Divinity.

I. DIVINITY.

PROFESSOR FLINT.

The course of study in this class extends over three Sessions. The Subjects of the Lectures during 1891-92 will be :—1. The Doctrine as to God and the Trinity. 2. The Doctrines of Creation and of Providence. 3. The Doctrine of Sin. 4. Apologetics.

Lectures will be delivered on Mondays, Tuesdays, Wednesdays, and Thursdays at 12 o'clock. Fridays will be devoted partly to the hearing of Discourses and Exercises, and partly to Lectures.

The work of the class includes two written examinations and an essay.

II. HEBREW AND ORIENTAL LANGUAGES.

PROFESSOR ADAMS.

A.—Hebrew.

Junior Class—1 *to* 2.

Grammar and Exercises (Davidson's Hebrew Grammar). Translations into Hebrew Prose.

Reading and Explanation of easy Prose and Poetical Passages in the Old Testament. During Session 1891-92 a portion of the Book of Genesis and selected Psalms will be read.

Oral and Written Examinations.

In connection with this Class there is a *Tutorial Class*, con-

ducted by the Class-Assistant, which meets at an hour found most convenient for the Students, on three days weekly during the Session, and which members of the Ordinary Class may attend without additional fee.

There is also a Preparatory Class in Elementary Hebrew, which meets during the SUMMER *Session, and for which the fee is £1, 11s. 6d.*

Senior Class—2 to 3.

Grammar (Davidson or Gesenius). Müller's Hebrew Syntax. Hebrew Prose Composition.

Reading and Explanation of portions of the Historical, Poetical, and Prophetic Books of the Old Testament. During Session 1891-92 Psalms cxx. to cxxxiv. inclusive, and the Books of Judges, Joel, and Amos will be read critically.

Discussion of *Critical and Historical* Questions regarding the Text, Date, Authorship, and Contents of the Books read.

Occasional Lectures on the Hebrew Language and Literature may be given.

Oral and Written Examinations.

B.—ARABIC AND ARAMAIC.

This Class meets at *three* o'clock on Mondays, Wednesdays, and Fridays.

The work consists of—

Instruction in Arabic and Syriac Grammar; Readings from Arabic and Syriac Authors; Easy Translations into Arabic and Syriac; Oral and Written Exercises and Examinations.

It is intended that SYRIAC *should form the subject of study in this Class during Session* 1891-92. *A separate Class may also be formed for* ARABIC *should a sufficient number of students present themselves.*

Books recommended:—Socin's Arabic Grammar; Wright's or Forbes's Arabic Grammar; Flügel's Edition of the Ḳor'ân; Nestle's Syriac Grammar, or Nöldeke's Syrische Gram-

matik; Turpie's Chaldee Manual; Rödiger's Chrestomathia Syriaca; Syriac New Testament, with Gutbir's Lexicon Syriacum (Bagster & Sons).

For the Regulations of the Jeffrey Scholarship in Hebrew and Oriental Languages,—value about £80,—see in CALENDAR under "SCHOLARSHIPS IN DIVINITY."

For the Regulations of the Vans Dunlop Scholarship in "Hebrew and Oriental (Semitic) Languages,"—value about £100 annually for three years,—see in CALENDAR under "SCHOLARSHIPS IN ARTS" and "SCHOLARSHIPS IN DIVINITY."

The Vans Dunlop and Jeffrey Scholarships will both be competed for at the close of Session 1892-93.

III. ECCLESIASTICAL HISTORY.

PROFESSOR TAYLOR.

1. *Lectures*—Mondays and Tuesdays.—On The Rise and Diffusion of Protestantism.

2. *Lectures*—Wednesdays and Thursdays.—On The Progress of the Reformation in Scotland to the death of Knox.

3. *Text-Book*—Fridays.—Kurtz's "History of the Christian Church." First Division; Second Section.

The work of the class includes three written examinations.

For the Regulations of the Vans Dunlop Scholarship in "History,"—value about £100 annually for three years,—see in CALENDAR under "SCHOLARSHIPS IN ARTS" and "SCHOLARSHIPS IN DIVINITY."

IV. BIBLICAL CRITICISM AND BIBLICAL ANTIQUITIES.

PROFESSOR CHARTERIS.

The whole course is arranged to occupy three sessions, in each of which a definite portion of work on the Old and New Testaments will be taken up. The work of each session is independent of the others, and can be studied separately. *The first year's course is chiefly occupied with Introduction to the Penta-*

teuch and some of the historical books of the Old Testament; and with Study of the New Testament in relation to the Old (the Epistle to the Galatians being the starting point), and of the Gnostic speculations relative to the Scriptures of the Old and New Testaments. The MSS. of the New Testament and the Versions will also be described as an introduction to Textual Criticism of the New Testament. The second year's course deals with Introduction to the Poetical and Prophetical Books; study of the relation of the Christian Scriptures to heathenism and contemporary philosophy (as in the Epistle to the Colossians), and continuation of Introduction to Textual Criticism of the New Testament. The third year's course is devoted to the Gospel of St John and questions of church order and Archæology, as suggested by the Pastoral Epistles. Critical Editions and disputed passages are studied as in Scrivener's "Introduction" during the second and third years' courses. Some portion of "Canonicity" is taken up each year, so as to study the early testimonies to the Christian Scriptures. If time permit, some work on Hebrew Antiquities is studied in the first year's course. There will also be critical and exegetical reading of the Greek Testament.

The first year's course will be taken in 1891-92 (as above in italics), with Canonicity, Part iii. p. 383 ff. (The Gnostics.)

Text-Books.—"Canonicity," by the Professor; Scrivener's Introduction to Textual Criticism.

There will be written and oral examinations, in which all regular students are required to take part; and subjects of occasional voluntary essays will also be suggested.

The JEFFREY SCHOLARSHIP in Biblical Criticism will be open for competition at the close of Session 1891-92.

Class Prize Lists.

Winter Session, 1890-91.

I.—DIVINITY.

STUDENTS OF THE THIRD YEAR.

Prizemen. — 1. James M. Kirkpatrick, M.A.; 2. Alex. H. Christie, M.A.; 3. James Cairns, M.A.; 4. Andrew Watt, M.A.; 5. A. L. Johnstone, M.A.

Next in Merit.—6. James M. Campbell, M.A.

STUDENTS OF THE SECOND YEAR.

Prizemen.—1. S. J. Ramsay Sibbald, M.A.; 2. Wm. A. Knowles, M.A., and David Rollo, M.A.—equal; 4. John Kennedy, M.A.; 5. Wm. Serle, M.A.; 6. John Muir, M.A.

Next in Merit.—7. J. R. Macdonald, M.A.; 8. James Thomson, M.A.; 9. John Craig, M.A.

STUDENTS OF THE FIRST YEAR.

Prizemen.—1. George Beale, M.A.; 2. Ian Fraser, M.A.; 3. Adam W. Fergusson, M.A.; 4. David M. Kay, M.A.; 5. Duncan Cameron, M.A.

Next in Merit.—6. W. B. Stevenson, M.A., and James Wedderspoon, M.A.—equal; 8. Walter T. Watson, M.A.; 9. John Hunter, M.A.

R. FLINT, D.D., *Professor.*

II.—HEBREW AND ORIENTAL LANGUAGES.

HEBREW—JUNIOR CLASS.

Medals.—1. David M. Kay, M.A., B.Sc., Muthil; 2. John Hunter, M.A., Edinburgh—nearly equal.

Prizes and First-Class Certificates of Merit.—1. David M. Kay, M.A., B.Sc., Muthil; 2. John Hunter, M.A., Edinburgh; 3. William B. Stevenson, M.A., Forfar; 4. James Wedderspoon, M.A., Inverness-shire; 5. Adam W. Fergusson, M.A., Langholm; 6. John Muirhead, M.A., East Lothian, and James A. Robertson, M.A., Perthshire—equal.

Second-Class Certificates of Merit.—8. Robert Venters, M.A., Carlisle; 9. George Beale, M.A., East Lothian; 10. Robert S.

V. Logie, M.A., Dirleton; 11. John O. Stafford, M.A., Dumfries; 12. Ian R. Fraser, M.A., Blair Athole; 13. William Crockett, Earlston; 14. Duncan Cameron, M.A., Inverness-shire.

HEBREW—SENIOR CLASS.

MEDAL.—David A. Rollo, M.A., Perth.

PRIZES AND FIRST-CLASS CERTIFICATES OF MERIT.—1. David A. Rollo, M.A., Perth; 2. Gordon C. Pringle, Aberdeenshire, and William Serle, M.A., East Lothian—equal; 4. William A. Knowles, M.A., Perth; 5. A. Cooper-Marsdin, B.A. Cantab., Yorkshire; 6. James J. Trotter, M.A., Leith; 7. John Craig, M.A., Bonnyrigg; 8. James R. Macdonald, M.A., Edinburgh.

FIRST-CLASS CERTIFICATES OF MERIT.—9. Roger S. Davidson, M.A., Kinfauns; 10. Patrick Sinclair, M.A., Island of Eigg; 11. John Kennedy, M.A., Newport, Fife.

SECOND-CLASS CERTIFICATES OF MERIT.—12. John Muir, M.A., Libberton, Lanarkshire; 13. Martin B. M'Innes, M.A., Caithness; 14. William Kirk, M.A., Tillicoultry; 15. J. L. Symington, M.A., Edinburgh; 16. Arnold S. Smith, M.A., Orkney; 17. Archibald J. Miller, M.A., Arbroath; 18. A. H. Mumford, B.A. Lond., Bedford; 19. John W. MacGill, M.A., Musselburgh; 20. Edmund E. Williamson, M.A., Elgin.

ARABIC CLASS.

HIGHLY COMMENDED.—James N. Cuthbert, M.A., Linlithgow; William A. Knowles, M.A. Perth; William Meston, M.A. Aberdeen.

PREPARATORY HEBREW CLASS.

SUMMER SESSION, 1890.

MEDAL.—John Hunter, M.A., Edinburgh.

FIRST-CLASS CERTIFICATES OF MERIT—1. John Hunter, M.A., Edinburgh; 2. John Muirhead, M.A., East Lothian; 3. James Padkin, Lanark; 4. John Black, M.A., Bathgate.

DAVID L. ADAMS, D.D., *Professor.*

III.—ECCLESIASTICAL HISTORY.

PRIZEMEN.—1. Alexander H. Christie, M.A., Gilmerton (*Medallist*); 2. James M. Kirkpatrick, M.A., Hamilton; 3. James Thomson, M.A., Ayr; 4. James Stewart, M.A., N. Berwick; 5. William B. Stevenson, M.A., Forfar; 6. Duncan Cameron, M.A., Kilmonivaig; 7. Robert Gray, M.A., Pencaitland.

NEXT IN MERIT.—1. John Muirhead, M.A., East Lothian, and

Andrew Watt, M.A., Dundee—equal; 3. George Beale, M.A., East Lothian; 4. Alexander Watters, M.A., Wick; 5. John Hunter, M.A., Edinburgh.

M. C. TAYLOR, D.D., *Professor.*

IV.—BIBLICAL CRITICISM AND BIBLICAL ANTIQUITIES.

PRIZEMEN.—1. J. N. Cuthbert, M.A.; 2. J. Ramsay Sibbald, M.A., and Alexander Waters, M.A.—equal; 4. Hector Mackinnon, M.A., David A. Rollo, M.A., and James Thomson, M.A.—equal; 7. J. R. Macdonald, M.A.; 8. John Craig, M.A.; Alex. Morrison, M.A.; and A. J. D. Scott, M.A.—equal; 11. A. H. Christie, M.A., and James M. Kirkpatrick, M.A.—equal.

HONOURABLE MENTION.—A. L. Johnston, W. A. Knowles, A. Watt, W. Serle, Robert Gray, James Stewart, D. M'Kay, J. Muir, Alex. Menzies, W. B. Stevenson, and Gordon Pringle.

PRIZES FOR ESSAYS.—1. John Kennedy, M.A.; William A. Knowles, M.A.; John Muir, M.A.; and David A. Rollo, M.A.—equal; 5. S. J. Ramsay Sibbald, M.A., and Roger S. Davidson, M.A.—equal.

A. H. CHARTERIS, D.D., *Professor.*

Regulations

FOR THE DEGREE OF BACHELOR OF DIVINITY.

APPROVED OF BY THE CHANCELLOR OF THE UNIVERSITY 17th OCTOBER 1870, and 17th April 1872.

I. No one shall be admitted as a Candidate for the Degree of Bachelor of Divinity unless he be a Graduate in Arts of one of the Universities of Scotland, or of England, or of Ireland, or of a Colonial University, whose degrees shall, for this purpose, have been specially recognised by the University Court.

II. This Degree shall be conferred only after the Candidate has completed his Theological Curriculum with a view to the ministry in the Church or Denomination to which he belongs, and after he has passed a satisfactory examination in the various branches of Theology which are taught in this University.

III. Candidates who are not Masters of Arts of the University of Edinburgh must have attended two classes in one or more of the Faculties of this University.

IV. The subjects of examination for the Degree of Bachelor of Divinity shall be arranged in two departments :—The First Department embracing—(1) Hebrew, and (2) Apologetic Theology, or the Evidences of Natural and Revealed Religion ; and the Second Department embracing—(1) Ecclesiastical History, (2) Systematic Theology, and (3) Biblical Criticism and Biblical Antiquities.

V. Candidates who have completed their Theological Course may be examined in either of these departments, and may defer to some future occasion their examination in the other department, provided always that there be not a greater interval than two years between their two examinations.

VI. Students who have completed all the Sessions but one of their Theological Course may be admitted to examination in the first department.

VII. The examinations shall be conducted by the Professors of the Theological Faculty with the assistance of two Examiners, being Bachelors of Divinity of one of the Universities of Scotland, to be nominated by the University Court.

VIII. The Examination in the First Department shall take place at, or soon after, the commencement of the Theological Session ; and the Examination in the Second Department at, or soon after, the close of the Theological Session—power being reserved to the Senatus Academicus, should they see cause, to appoint the examination in both departments to take place at either of these periods.

IX. The Fee for examination shall be Three Guineas, payable in advance ; but when the examination is undergone on different occasions, a Fee of two Guineas shall be paid prior to the first, and the remaining One Guinea prior to the last examination.[1]

There will be an examination in both departments on Tuesday, 27th October 1891, and two following days; and also on Wednesday, 23rd March 1892, and two following days. (27th October and 23rd March), Hebrew and Apologetics; (28th October and 24th March), Ecclesiastical History and Divinity ; (29th October and 25th March), Biblical Criticism, beginning each day at 10 A.M., and allowing three hours for each Subject. Candidates are required to communicate their names, together with evidence of their being qualified in terms of the above Regulations, to the Dean of the Faculty of Divinity, at least one week before the day appointed for the Examination, and to pay the fees[2] at the Matriculation Office on or before 20th October 1891, and on or before 15th March 1892, for the Examinations in October and March respectively.

[1] Every Candidate must matriculate before Examination or Graduation. He is also required before Graduation to pay the Fee of £1 for Registration as a member of the General Council, now made compulsory by Act of Parliament.

When names are not entered, and fees paid, on or before the stated dates, a late-entry fee of ten shillings must be paid before the candidate can be admitted to examination. A candidate is not held to be entered for the examination until his name is entered, the fee paid, and all the necessary certificates, &c., lodged.

The subjects of examination are as follows :—

DEPARTMENT I.

I. *Hebrew*—
(1.) Questions in Grammar.
(2.) Translation into Hebrew Prose.
(3.) Book of Judges.
(4.) Psalms cxx. to cxxxiv. inclusive.
(5.) Joel and Amos.

Some critical knowledge of the text of the books prescribed is required.

II. *Apologetic Theology*—
(1.) Proofs of the Being of God.
(2.) Miracles.
(3.) The Resurrection of Jesus.

DEPARTMENT II.

I. *Ecclesiastical History*—
(1.) The Main Facts in the Development of the Constitution, Doctrine, and Worship of the Church to 381 A.D. (2.) The History of the Church in Scotland during the 17th Century.

II. *Systematic Theology*—
(1.) The Doctrine of Sin.
(2.) The Doctrine of the Atonement.
(3.) The Doctrine of the Sacraments.

III. *Biblical Criticism and Biblical Antiquities*—
Manuscripts, Versions, and Disputed Passages of the New Testament. (As in "Scrivener's Introduction," Third Edition.)

Old Testament Introduction, Pentateuch, and Historical Books.

The Heretics and the New Testament Canon. Canonicity, Part iii. (especially on Basilides, Marcion Valentinus, and Heracleon).

Examination Papers.

DEPARTMENT I.

I.—HEBREW.

Tuesday, October 28, 1890.—10 *to* 1 *o'clock.*

I. Translate into Hebrew :—

On the death of their old king, after whom there was not his like, as he had been wise and God-fearing, our fathers ceased to follow the prophets, transgressing what God had prescribed to them, and walking in the ways of a people without knowledge and the fear of Yahweh. And when the prophets saw that the people did not trust to Yahweh for counsel and strength, but had entered into treaty with strangers, without their God having commanded it, then they summoned all the elders, and spoke as follows: Thus saith Yahweh, Because ye have provoked me, I will punish you for this thing. Ye shall dwell in your land until I bring up against you a nation from the east, when I will deliver you into their hand. And all your cities, from the least to the greatest, they will besiege, and when they have taken them they will deport their inhabitants, so that this people shall be blotted out. And as the elders heard these words, they lifted up their voice and derided the prophets, saying, No man knows whether Yahweh is able to do according to the word which you have spoken.

II. Point and translate the following :—

1 הטה יהוה אזנך ושמע פקח יהוה עיניך וראה ושמע את דברי סנחריב
2 אשר שלחו לחרף אלהים חי: אמנם יהוה החריבו מלכי אשור את הגוים
3 ואת ארצם: ונתנו את אלהיהם באש כי לא אלהים המה כי אם מעשה
ידי אדם עץ ואבן ויאבדום:

III. Translate the following :

1 וַיָּשָׁב וַיִּבֶן אֶת־הַבָּמוֹת אֲשֶׁר אִבֵּד חִזְקִיָּהוּ אָבִיו וַיָּקֶם מִזְבְּחוֹת לַבַּעַל וַיַּעַשׂ
אֲשֵׁרָה כַּאֲשֶׁר עָשָׂה אַחְאָב מֶלֶךְ יִשְׂרָאֵל וַיִּשְׁתַּחוּ לְכָל־צְבָא הַשָּׁמַיִם וַיַּעֲבֹד
2 אֹתָם: וּבָנָה מִזְבְּחֹת בְּבֵית יְהוָה אֲשֶׁר אָמַר יְהוָה בִּירוּשָׁלַם אָשִׂים אֶת־

3, 4 שְׁמִי: וַיִּבֶן מִזְבְּחוֹת לְכָל־צְבָא הַשָּׁמַיִם בִּשְׁתֵּי חַצְרוֹת בֵּית־יְהוָה: וְהַעֲבִיר
אֶת־בְּנוֹ בָּאֵשׁ וְעוֹנֵן וְנִחֵשׁ וְעָשָׂה אוֹב וְיִדְּעֹנִים הִרְבָּה לַעֲשׂוֹת הָרַע בְּעֵינֵי
5 יְהוָה לְהַכְעִיס: לֶבֶן כֹּה־אָמַר יְהוָה אֱלֹהֵי יִשְׂרָאֵל הִנְנִי מֵבִיא רָעָה
6 עַל־יְרוּשָׁלַם וִיהוּדָה אֲשֶׁר כָּל־שֹׁמְעָיו תִּצַּלְנָה שְׁתֵּי אָזְנָיו: וְנָטִיתִי עַל־יְרוּשָׁלַם
אֶת קַו שֹׁמְרוֹן וְאֶת־מִשְׁקֹלֶת בֵּית אַחְאָב וּמָחִיתִי אֶת־יְרוּשָׁלַם כַּאֲשֶׁר־יִמְחֶה
7 אֶת־הַצַּלַּחַת מָחָה וְהָפַךְ עַל־פָּנֶיהָ: וְנָטַשְׁתִּי אֶת שְׁאֵרִית נַחֲלָתִי וּנְתַתִּים
בְּיַד אֹיְבֵיהֶם וְהָיוּ לָבַז וְלִמְשִׁסָּה לְכָל־אֹיְבֵיהֶם:

(*a*) Note the irregularities in verbal consecution, and remark as to the explanation.

(*b*) Verse 4 runs in the LXX. *καὶ διῆγεν τοὺς υἱοὺς αὐτοῦ ἐν πυρί καὶ ἐκληδονίζετο καὶ οἰωνίζετο καὶ ἐποίησεν ἐλλὴν καὶ γνώστας ἐπλήθυνεν τοῦ ποιεῖν τὸ πονηρὸν ἐν ὀφθαλμοῖς κυρίου παροργίσαι αὐτόν.* Point out where this diverges from the Massoretic text, and account for the divergence.

(*c*) State and explain the Massoretic correction of שמעיו (5).

(*d*) Express 5*b* as an independent predictive sentence in a form similar to 5*a*.

(*e*) How may מחה (v. 6) be otherwise pointed? Explain and remark on the two constructions.

(*f*) Give another pointing and rendering of מחה והפך.

IV. (1) Translate: —

1, 2 לָמָּה יְהוָה תַּעֲמֹד בָּרָחוֹק תַּעְלִים לְעִתּוֹת בַּצָּרָה: בְּגַאֲוַת רָשָׁע יִדְלַק עָנִי
3 יִתָּפְשׂוּ בְמִזְמוֹת זוּ חָשָׁבוּ: כִּי־הֹלֵל רָשָׁע עַל־תַּאֲוַת נַפְשׁוֹ וּבֹצֵעַ בֵּרַךְ נִאֵץ ו
4, 5 יְהוָה: רָשָׁע כְּגָבַהּ אַפּוֹ בַּל־יִדְרֹשׁ אֵין אֱלֹהִים כָּל־מְזִמּוֹתָיו: יָחִילוּ דְרָכָו ו
6 בְּכָל־עֵת מָרוֹם מִשְׁפָּטֶיךָ מִנְּגְדּוֹ כָּל־צוֹרְרָיו יָפִיחַ בָּהֶם: אָמַר בְּלִבּוֹ
7 בַּל־אֶמּוֹט לְדֹר וָדֹר אֲשֶׁר לֹא בְרָע: אָלָה ו פִּיהוּ מָלֵא וּמִרְמוֹת וָתֹךְ תַּחַת
8 לְשׁוֹנוֹ עָמָל וָאָוֶן: יֵשֶׁב ו בְּמַאְרַב חֲצֵרִים בְּמִסְתָּרִים יַהֲרֹג נְקִי עֵינָיו לְחֶלְכָה
9 יִצְפֹּנוּ: יֶאֱרֹב בַּמִּסְתָּר ו כְּאַרְיֵה בְסֻכּוֹ יֶאֱרֹב לַחֲטוֹף עָנִי יַחְטֹף עָנִי בְּמָשְׁכוֹ

10,11 בְּרִשְׁתּוֹ: וְדֻכָּה יִשְׁחַ וְנָפַל בַּעֲצוּמָיו חֵלְכָאִים: אָמַר בִּלְבּוֹ שָׁכַח אֵל
הִסְתִּיר פָּנָיו בַּל־רָאָה לָנֶצַח:

(*a*) Render 2*a* transitively. Note and remark on any change in the text which your rendering involves. How might יִתְפְּשׂוּ be differently pointed and translated?

(*b*) What are the possible constructions and meanings of בִּצַּע בֵּרַךְ?

(*c*) Remark on the possible grammatical connections of אֲשֶׁר לֹא בָרָע, and state what change on the text would yield the meaning, "I shall abide without misfortune."

(*d*) Remark on the text and renderings of 10*a*.

(*e*) State various divisions and renderings of 10*b*.

(*f*) Discuss the meaning and punctuation of חלכה and חלכאים.

(*g*) Write short notes on תַּעֲלֻמוֹת, עֲתוּת, בַּצָּרָה, זוּ, בְּסֻכּוֹ, בְּמִשְׁכּוֹ, and parse אָמוּט.

(2) Translate :—

1,2 יו מִכְתָּם לְדָוִד שָׁמְרֵנִי אֵל כִּי־חָסִיתִי בָךְ: אָמַרְתְּ לַיהוָה אֲדֹנָי
3 אָתָּה טוֹבָתִי בַּל־עָלֶיךָ: לִקְדוֹשִׁים אֲשֶׁר־בָּאָרֶץ הֵמָּה וְאַדִּירֵי כָּל־חֶפְצִי־בָם:
4 יִרְבּוּ עִצְּבוֹתָם אַחֵר מָהָרוּ בַּל־אַסִּיךְ נִסְכֵּיהֶם מִדָּם וּבַל־אֶשָּׂא אֶת־שְׁמוֹתָם
5 עַל־שְׂפָתָי: יְהוָה מְנַת־חֶלְקִי וְכוֹסִי אַתָּה תּוֹמִיךְ גּוֹרָלִי:

(*a*) Remark on אָמַרְתְּ and טוֹבָתִי בַּל עָלֶיךָ.

(*b*) Translate verse 3, (*α*) in connection with verse 2, (*β*) in connection with verse 4*a*, (*γ*) as an independent sentence.

(*c*) How would you amend the text of verse 3, so as to correspond with the LXX., *τοῖς ἁγίοις τοῖς ἐν τῇ γῇ αὐτοῦ ἐθαυμάστωσε πάντα τὰ θελήματα αὐτοῦ ἐν αὐτοῖς*?

(*d*) Remark on the concord יִרְבּוּ עִצְּבוֹתָם, and mention what emendation has been suggested here.

(*e*) Remark on the use and meaning of מהרו, and note a suggested emendation.

(*f*) Give another rendering of the clause בַּל־מִדָּם.

(*g*) Have you any remarks to offer in regard to מנת, תומיך, עַצְבוֹת?

V. Translate :—

1 הֲבַנְּהָרִים חָרָה יְהוָה אִם־בַּנְּהָרִים אַפֶּךָ אִם־בַּיָּם עֶבְרָתֶךָ כִּי תִרְכַּב
2 עַל־סוּסֶיךָ מַרְכְּבֹתֶיךָ יְשׁוּעָה: עֶרְיָה תֵּעוֹר קַשְׁתֶּךָ שִׁבְעוֹת מַטּוֹת אֹמֶר
3 סֶלָה נְהָרוֹת תִּבְקַע־אָרֶץ: רָאוּךָ יָחִילוּ הָרִים זֶרֶם מַיִם עָבָר נָתַן תְּהוֹם קוֹלוֹ
4 רוֹם יָדָיהוּ נָשָׂא: שֶׁמֶשׁ יָרֵחַ עָמַד זְבֻלָה לְאוֹר חִצֶּיךָ יְהַלֵּכוּ לְנֹגַהּ בְּרַק
5, 6 חֲנִיתֶךָ: בְּזַעַם תִּצְעַד־אָרֶץ בְּאַף תָּדוּשׁ גּוֹיִם: יָצָאתָ לְיֵשַׁע עַמֶּךָ לְיֵשַׁע
7 אֶת־מְשִׁיחֶךָ מָחַצְתָּ רֹאשׁ מִבֵּית רָשָׁע עָרוֹת יְסוֹד עַד־צַוָּאר סֶלָה: נָקַבְתָּ
8 בְמַטָּיו רֹאשׁ פְּרָזוֹ יִסְעֲרוּ לְהָפִיצֵנִי עֲלִיצָתָם כְּמוֹ־לֶאֱכֹל עָנִי בַּמִּסְתָּר: דָּרַכְתָּ
בַיָּם סוּסֶיךָ חֹמֶר מַיִם רַבִּים

(*a*) Remark on the constructions מַרְכְּבוֹתֶיךָ יְשׁוּעָה, עֶרְיָה תֵּעוֹר, לְיֵשַׁע אֶת־ סוּסֶיךָ, (8).

(*b*) Remark on מַטָּיו, עָרוֹת, יָדָיהוּ (v. 8).

(*c*) Some MSS. of the LXX. have the reading *τοὺς χριστούς* for מְשִׁיחֶךָ. Explain this.

(*d*) Give another rendering of the clause לְאוֹר־חֲנִיתֶךָ.

(*e*) Mention various renderings proposed for שִׁבְעוֹת מַטּוֹת אֹמֶר, and translate the following suggested emendation of the text,—
שִׁבְעוֹת מַטּוֹתֶיךָ יוֹרְמוּ עָבִים עַל אֹמֶר.

(*f*) Translate the following emended text of 4*a*,—

הֶחְשִׁיכָה אוֹרָהּ שֶׁמֶשׁ יָרֵחַ עָמַד זְבֻלֹה,

and explain the difficulties that it removes.

VI. Translate :—

1 הוֹי חֹשְׁבֵי־אָוֶן וּפֹעֲלֵי רָע עַל־מִשְׁכְּבוֹתָם בְּאוֹר הַבֹּקֶר יַעֲשׂוּהָ כִּי יֶשׁ־לְאֵל
2 יָדָם׃ וְחָמְדוּ שָׂדוֹת וְגָזָלוּ וּבָתִּים וְנָשָׂאוּ וְעָשְׁקוּ גֶּבֶר וּבֵיתוֹ וְאִישׁ וְנַחֲלָתוֹ׃
3 לָכֵן כֹּה אָמַר יְהוָֹה הִנְנִי חֹשֵׁב עַל־הַמִּשְׁפָּחָה הַזֹּאת רָעָה אֲשֶׁר לֹא־תָמִישׁוּ
4 מִשָּׁם צַוְּארֹתֵיכֶם וְלֹא תֵלְכוּ רוֹמָה כִּי עֵת רָעָה הִיא׃ בַּיּוֹם הַהוּא יִשָּׂא
עֲלֵיכֶם מָשָׁל וְנָהָה נְהִי נִהְיָה אָמַר שָׁדוֹד נְשַׁדֻּנוּ חֵלֶק עַמִּי יָמִיר אֵיךְ יָמִישׁ לִי
5 לְשׁוֹבֵב שָׂדֵינוּ יְחַלֵּק׃ לָכֵן לֹא־יִהְיֶה לְךָ מַשְׁלִיךְ חֶבֶל בְּגוֹרָל בִּקְהַל יְהוָֹה׃
6, 7 אַל־תַּטִּיפוּ יַטִּיפוּן לֹא־יַטִּיפוּ לָאֵלֶּה לֹא יִסַּג כְּלִמּוֹת׃ הֶאָמוּר בֵּית־יַעֲקֹב
הֲקַצַר רוּחַ יְהוָֹה אִם־אֵלֶּה מַעֲלָלָיו הֲלוֹא דְבָרַי יֵיטִיבוּ עִם הַיָּשָׁר הוֹלֵךְ׃

(*a*) Remark on the meaning of יֵשׁ לְאֵל יָדָם.

(*b*) Explain the suffix in יַעֲשׂוּהָ, and remark on the idiom exemplified in the case of the verbs אָמַר, נָהָה, יִשָּׂא, in verse 4.

(*c*) Parse נִהְיָה. What change in the text here seems implied in the LXX., *θρηνηθήσεται θρῆνος εν μέλει λέγων?*

(*d*) Parse and remark on נְשַׁדֻּנוּ.

(*e*) Parse יָמִיר. What would be the Hebrew corresponding to the LXX. text in this place (adopted by Ewald), *μερὶς λαοῦ μου κατεμετρήθη ἐν σχοινίῳ?*

(*f*) Give various renderings of 6*b*.

(*g*) In what ways has הֶאָמוּר been taken?

(*h*) Remark on הַיָּשָׁר הוֹלֵךְ.

Wednesday, March 25, 1891.—10 *to* 1 *o'clock.*

I. Translate into Hebrew :—

The king, being wise and good, gave orders to assemble the people, and he read to them the words of the law. When they heard that Yahweh had spoken of the land, to the effect that it would become desolate and accursed, they turned to seek him in order to avert the evil which he was about to bring upon them for not having lived truly and faithfully. All the idols, too, the king got destroyed, and all the idol-priests slain ; and he collected all the priests of the local sanctuaries into Jerusalem, so that no one should provoke Yahweh. Yahweh, however, through his prophets made known that he would not forgive, for the evil which the people had done since the day when they forsook him was very great, apart altogether from the sin of that generation. Nevertheless, as for the men of that generation, Yahweh gathered them to their fathers, without their seeing the evil days.

II. (*a*) Point and translate :—

1 ביד מלאכיך חרפת אדני ותאמר ברכב רכבי אני עליתי מרום הרים
ירכתי לבנון ואכרת קומת ארזיו מבחור ברשיו ואבואה מלון קצה יער
2 כרמלו : אני קרתי ושתיתי מים זרים ואחרב בכף פעמי כל יאורי מצור :
3 הלא־שמעת למרחוק אתה עשיתי למימי קדם ויצרתיה עתה הביאתיה
ותהי להשות גלים נצים ערים בצרות :

(*b*) In the duplicate of this passage we find מרום קצו instead of מלון קצה (v. 1). Point and translate the former expression.

III. (*a*) Translate :—

1 וַיְצַו הַמֶּלֶךְ אֶת־חִלְקִיָּהוּ הַכֹּהֵן הַגָּדוֹל וְאֶת־כֹּהֲנֵי הַמִּשְׁנֶה וְאֶת־שֹׁמְרֵי הַסַּף
לְהוֹצִיא מֵהֵיכַל יְהוָה אֵת כָּל־הַכֵּלִים הָעֲשׂוּיִם לַבַּעַל וְלָאֲשֵׁרָה וּלְכֹל צְבָא
הַשָּׁמַיִם וַיִּשְׂרְפֵם מִחוּץ לִירוּשָׁלַם בְּשַׁדְמוֹת קִדְרוֹן וְנָשָׂא אֶת־עֲפָרָם בֵּית־אֵל :
2 וְטִמֵּא אֶת־הַתֹּפֶת אֲשֶׁר בְּגֵי בְנֵי־הִנֹּם לְבִלְתִּי לְהַעֲבִיר אִישׁ אֶת־בְּנוֹ וְאֶת־בִּתּוֹ
3 בָּאֵשׁ לַמֹּלֶךְ : וְגַם אֶת־הַמִּזְבֵּחַ אֲשֶׁר בְּבֵית־אֵל הַבָּמָה אֲשֶׁר עָשָׂה יָרָבְעָם
בֶּן־נְבָט אֲשֶׁר הֶחֱטִיא אֶת־יִשְׂרָאֵל גַּם אֶת־הַמִּזְבֵּחַ הַהוּא וְאֶת־הַבָּמָה נָתָץ
4 וַיִּשְׂרֹף אֶת־הַבָּמָה הֵדֵק לְעָפָר וְשָׂרַף אֲשֵׁרָה : וַיִּפֶן וַיִּשָּׂא וַיַּרְא אֶת־הַקְּבָרִים

אֲשֶׁר־שָׁם בָּהָר וַיִּשְׁלַח וַיִּקַּח אֶת־הָעֲצָמוֹת מִן־הַקְּבָרִים וַיִּשְׂרֹף עַל־הַמִּזְבֵּחַ
וַיְטַמְּאֵהוּ כִּדְבַר יְהוָה אֲשֶׁר קָרָא אִישׁ הָאֱלֹהִים אֲשֶׁר קָרָא אֶת־הַדְּבָרִים
5 הָאֵלֶּה: וַיֹּאמֶר מָה הַצִּיּוּן הַלָּז אֲשֶׁר אֲנִי רֹאֶה וַיֹּאמְרוּ אֵלָיו אַנְשֵׁי הָעִיר
הַקֶּבֶר אִישׁ־הָאֱלֹהִים אֲשֶׁר־בָּא מִיהוּדָה וַיִּקְרָא אֶת־הַדְּבָרִים הָאֵלֶּה אֲשֶׁר
6 עָשִׂיתָ עַל הַמִּזְבֵּחַ בֵּית־אֵל: וַיֹּאמֶר הַנִּיחוּ לוֹ אִישׁ אַל־יָנַע עַצְמֹתָיו וַיְמַלְּטוּ
עַצְמֹתָיו אֶת עַצְמוֹת הַנָּבִיא אֲשֶׁר־בָּא מִשֹּׁמְרוֹן:

(*b*) Translate the following emended text of the latter part of verse 1, and note and remark on the points of divergence :—

וַיִּשְׂרְפֵם מִחוּץ לִירוּשָׁלַם בְּמִשְׂרְפוֹת נַחַל
קִדְרוֹן וַיַּשְׁא אֶת עֲפָרָם בַּנַּחַל (*ἐν τῷ ἐμπυρισμῷ τοῦ χειμάῤῥου*).

(*c*) Remark on and explain the following readings of verse 2 :—
וְטַמֵּא LXX. *καὶ μιανεῖτε*, לְבַלְתִּי לְהַעֲבִיר LXX. *τοῦ διαγαγεῖν ἄνδρα τὸν υἱὸν αὐτοῦ*.

(*d*) LXX. inserts in verse 4 after אִישׁ הָאֱלֹהִים *ἐν τῷ ἑστάναι Ἱεροβοὰμ ἐπὶ τὸ θυσιαστήριον ἐν τῇ ἑορτῇ. καὶ ἐπιστρέψας Ἰωσίας ἦρε τοὺς ὀφθαλμοὺς αὐτοῦ ἐπὶ τὸν τάφον τοῦ ἀνθρώπου τοῦ θεοῦ*.

(*α*) Turn this into Hebrew.

(*β*) Can you explain the omission of this from the Hebrew text?

(*e*) (*α*) Remark on the text הַקֶּבֶר אִישׁ הָאֱלֹהִים.

(*β*) Can you, from the reading found in Lucian, *οὗτος ὁ τάφος*, suggest an explanation of the origin of the Massoretic reading?

(*f*) In what relation does the LXX. reading, v. 6, *καὶ ἐρύσθησαν τὰ ὀστᾶ αὐτοῦ*, stand to the corresponding consonantal and Massoretic texts respectively?

(*g*) It has been suggested to read the last clause of verse 6 אֲשֶׁר בָּא לְהַשִׁיבוֹ. Translate and remark on the emendation.

IV. (*a*) Translate :—

1, 2 בַּיהוָה ׀ חָסִיתִי אֵיךְ תֹּאמְרוּ לְנַפְשִׁי נוּדִי הַרְכֶם צִפּוֹר׃ כִּי הִנֵּה הָרְשָׁעִים

3 יִדְרְכוּן קֶשֶׁת כּוֹנְנוּ חִצָּם עַל־יֶתֶר לִירוֹת בְּמוֹ־אֹפֶל לְיִשְׁרֵי־לֵב׃ כִּי הַשָּׁתוֹת

4 יֶהֱרָסוּן צַדִּיק מַה־פָּעָל׃ יְהוָה ׀ בְּהֵיכַל קָדְשׁוֹ יְהוָה בַּשָּׁמַיִם כִּסְאוֹ עֵינָיו יֶחֱזוּ

5 עַפְעַפָּיו יִבְחֲנוּ בְּנֵי אָדָם׃ יְהוָה צַדִּיק יִבְחָן וְרָשָׁע וְאֹהֵב חָמָס שָׂנְאָה נַפְשׁוֹ׃

6, 7 יַמְטֵר עַל־רְשָׁעִים פַּחִים אֵשׁ וְגָפְרִית וְרוּחַ זְלָעָפוֹת מְנָת כּוֹסָם׃ כִּי־צַדִּיק

יְהוָה צְדָקוֹת אָהֵב יָשָׁר יֶחֱזוּ פָנָימוֹ׃

(*b*) How would you account for the Q'rê נוּדִי in v. 1? Is there any objection to it, or to the consonantal text?

Alter the text in accordance with the Septuagint rendering —*μεταναστεύου ἐπὶ τὰ ὄρη ὡς στρουθίον.*

(*c*) Remark on בְּמוֹ־אֹפֶל (v. 2); יֶהֱרָסוּן (v. 3), parsing it; הֵיכָל (v. 4), giving its etymology; מְנָת (v. 6), giving its plural; and פָּנִימוֹ (v. 7).

(*d*) In the Septuagint v. 5 runs thus—

Κύριος ἐξετάζει τὸν δίκαιον καὶ τὸν ἀσεβῆ, ὁ δὲ ἀγαπῶν ἀδικίαν μισεῖ τὴν ἑαυτοῦ ψυχήν.

Arrange the text of 5*a* so as to correspond with this version. What alteration would be required in 5*b*?

(*e*) Parse יַמְטֵר (v. 6). How might it be otherwise pointed and rendered?

(*f*) What is the objection to the reading פַּחִים (v. 6), and what has been proposed to be read instead? Translate the verse giving effect to the emendation.

(*g*) Remark on 7*b*.

V. (*a*) Translate :—

1, 2 קוֹל יְהוָה לָעִיר יִקְרָא וְתוּשִׁיָּה יִרְאֶה שִׁמְעוּ מַטֶּה וּמִי יְעָדָהּ׃ עוֹד

3 הַאִשׁ בֵּית רָשָׁע אֹצְרוֹת רֶשַׁע וְאֵיפַת רָזוֹן זְעוּמָה׃ הַאֲזַכֶּה בְּמֹאזְנֵי רָשַׁע

4 וּבֵכִים אַבְנֵי מִרְמָה׃ אֲשֶׁר עֲשִׁירֶיהָ מָלְאוּ חָמָס וְיֹשְׁבֶיהָ דִּבְּרוּ־שֶׁקֶר וּלְשׁוֹנָם

5, 6 רְמִיָּה בְּפִיהֶם׃ וְגַם־אֲנִי הֶחֱלֵיתִי הַכּוֹתֶךָ הַשְׁמֵם עַל־חַטֹּאותֶיךָ׃ אַתָּה תֹאבַל

וְלֹא תִשְׂבָּע וְיֶשְׁחֲךָ בְּקִרְבֶּךָ וְתַסֵּג וְלֹא תַפְלִיט וַאֲשֶׁר תְּפַלֵּט לַחֶרֶב אֶתֵּן׃

(*b*) What renderings have been given of v. 1 as it stands?

(*c*) Point out the differences between the existing Hebrew text and the Septuagint Version—*καὶ σώσει φοβουμένους τὸ ὄνομα αὐτοῦ· ἄκουε φυλή, καὶ τίς κοσμήσει πόλιν.*

(*d*) Translate the following emended text—

וְתוּשִׁיָּה יִרְאָה שִׁמּוֹ שְׂמָעוּ מַטֵּהוּ מִי יָעַר הָעִיד.

(*e*) How might הָאזְכָה (v. 3) be differently pointed and translated?

(*f*) Remark on הָאִישׁ (v. 2). To what does the suffix in עֲשִׁירֶיהָ (v. 4) refer?

(*g*) Remark on הֶחֱלֵיתִי הַכּוֹתֶךָ, parsing the words. Write also the Hebrew corresponding to the rendering "I will begin (*or* have begun) to smite thee," given by the old versions.

VI. (*a*) Translate:—

1, 2 אֵיךְ נֶחְפְּשׂוּ עֵשָׂו נִבְעוּ מַצְפֻּנָיו׃ עַד־הַגְּבוּל שִׁלְּחוּךָ כָּל אַנְשֵׁי בְרִיתֶךָ

3 הִשִּׁיאוּךָ יָכְלוּ לְךָ אַנְשֵׁי שְׁלֹמֶךָ לַחְמְךָ יָשִׂימוּ מָזוֹר תַּחְתֶּיךָ אֵין תְּבוּנָה בּוֹ׃

4 הֲלוֹא בַּיּוֹם הַהוּא נְאֻם־יְהוָה וְהַאֲבַדְתִּי חֲכָמִים מֵאֱדוֹם וּתְבוּנָה מֵהַר עֵשָׂו׃

5 וְחַתּוּ גִבּוֹרַיִךְ תֵּימָן לְמַעַן יִכָּרֵת־אִישׁ מֵהַר עֵשָׂו מִקָּטֶל׃ מֵחֲמַס אָחִיךָ יַעֲקֹב

תְּכַסְּךָ בוּשָׁה וְנִכְרַתְּ לְעוֹלָם׃

(*b*) Remark on לַחְמְךָ (v. 2), מִקָּטֶל (v. 4), מֵחֲמַס אָחִיךָ (v. 5).

(*c*) Account for the Septuagint rendering of the last verse—*Διὰ τὴν σφαγὴν, καὶ τὴν ἀσέβειαν ἀδελφοῦ σου,* &c.

(*d*) Is there any internal evidence in the Book of Obadiah as to (1) the date of its composition, (2) the condition or circumstances of the writer?

VII. (*a*) Translate :—

1 יְהוָה שָׁמַעְתִּי שִׁמְעֲךָ יָרֵאתִי יְהוָה פָּעָלְךָ בְּקֶרֶב שָׁנִים חַיֵּהוּ בְּקֶרֶב שָׁנִים
2 תּוֹדִיעַ בְּרֹגֶז רַחֵם תִּזְכּוֹר : אֱלוֹהַּ מִתֵּימָן יָבוֹא וְקָדוֹשׁ מֵהַר־פָּארָן סֶלָה כִּסָּה
3 שָׁמַיִם הוֹדוֹ וּתְהִלָּתוֹ מָלְאָה הָאָרֶץ : וְנֹגַהּ כָּאוֹר תִּהְיֶה קְרָנַיִם מִיָּדוֹ לוֹ וְשָׁם
4 חֶבְיוֹן עֻזּוֹ : לְפָנָיו יֵלֶךְ דָּבֶר וְיֵצֵא רֶשֶׁף לְרַגְלָיו : עָמַד וַיְמֹדֵד אֶרֶץ רָאָה וַיְתַּר
6 גּוֹיִם וַיִּתְפֹּצְצוּ הַרְרֵי־עַד שַׁחוּ גִּבְעוֹת עוֹלָם הֲלִיכוֹת עוֹלָם לוֹ : תַּחַת אָוֶן רָאִיתִי
7 אָהֳלֵי כוּשָׁן יִרְגָּזוּן יְרִיעוֹת אֶרֶץ מִדְיָן : הֲבַנְהָרִים חָרָה יְהוָה אִם־בַּנְּהָרִים אַפֶּךָ
אִם־בַּיָּם עֶבְרָתֶךָ כִּי תִרְכַּב עַל־סוּסֶיךָ מַרְכְּבֹתֶיךָ יְשׁוּעָה :

(*b*) Write the Hebrew corresponding to the Septuagint version of the last part of the first verse—

ἐν τῷ ταραχθῆναι τὴν ψυχήν μου, ἐν ὀργῇ ἐλέους μνησθήσῃ.

(*c*) Parse רַחֵם (v. 1), and וַיְמֹדֵד (v. 5) ; and remark on חֶבְיוֹן (v. 3), and on כּוּשָׁן (v. 6).

(*d*) How might ושם חביון עזו (v. 3) be differently pointed and rendered?

(*e*) (*α*) Have you any critical remarks to offer on the first two clauses of v. 7 ?

(*β*) On what grounds has it been proposed (1) to read הבהרים instead of הבנהרים ; or (2) retaining the latter, to strike out אם־בנהרים ?

(*γ*) Translate the verse, giving effect to the proposed emendations.

II.—APOLOGETICS.

Tuesday, October 28, 1890.—2 *to* 5 *o'clock.*

Proofs of the Being of God.

1. State and examine the reasons which have been given for holding that the Divine Existence is to be believed but cannot be proved.

2. Classify the "Proofs" in two distinct ways, and remark on the principle or principles implied in each classification.

3. Explain how Des Cartes attempted to prove the Divine Existence, and to meet objections against his method of proof.

4. Summarize and review Hume's discussion of the Teleological Argument.

Miracles.

1. Define "Miracle"; and show briefly how miracle so defined is related to law of nature, course of nature, reason, means, Divine and human volition and purpose.

2. Indicate the causes by which the belief in miracles is influenced, and how their operation affects the question as to the legitimacy of the belief in miracles, and also that as to the amount and kind of evidence required in order to prove a miracle.

3. On what grounds may disbelief in the miracles recorded by Gregory of Tours or Bede, and belief in those recorded in the Gospels, be justified?

4. Review the Apologetic Argument from Miracles, taking notice of the objection that it involves reasoning in a circle.

The Internal Evidences of Revelation.

1. Are the Internal Evidences independent of the External Evidences? How are the Internal and External Evidences related?

2. Give a classification or summary of what you regard as the Internal Evidences of Revelation, with some notice of the treatment of them by theologians.

3. Show how and to what extent the argument from the Internal Evidences of Revelation has been affected by (1) Historical criticism of the Christian Scriptures, and (2) Comparative study of the non-Christian Religions.

4. Review historically and critically the thesis: "Articuli fidei *in se* non sunt *contra* rationem, sed solum *supra* rationem."

Wednesday, March 25, 1891.—2 *to* 5 *o'clock.*

Proofs of the Being of God.

1. Are there *proofs*, properly so called, of the Being of God? State on what grounds it has been denied, and why it may be maintained that there are.

2. Show in what ways the proofs have been assailed from metaphysical standpoints, and as contrary to the discoveries of physical science.

3. Sketch the History of the Cosmological Proof, and review Kant's criticism of it.

4. State and examine the Proofs that have been advanced to establish the Moral Unity and Perfection of the Being of God.

Miracles.

1. May we consistently accept Biblical and reject Ecclesiastical Miracles? Examine the question, taking into account Cardinal Newman's views regarding it.
2. Refer to any portions or particulars of Christ's teaching which presuppose His having performed miracles.
3. Examine the objections advanced against the Possibility and Credibility of Miracles by Spinoza and Hume.
4. State and review Strauss's Mythical Theory of the Christian Miracles.

Internal Evidences of Revelation.

1. Did Jesus rest His claims primarily and chiefly on Miracles or on Moral Evidences? Discuss the question.
2. What reasons may be given for holding that the character of Jesus as delineated in the Gospels is not an imaginary or idealised one?
3. "The intellectual difficulties which Rationalism discovers in the contents of Revelation are such as no system of Rational Theology can hope to remove; for they are inherent in the constitution of Reason itself" (Mansel). Examine this position, and give your own view of how these intellectual difficulties should be dealt with.
4. Indicate generally the aim, nature, and chief problems of Apologetic Theology.

DEPARTMENT II.

I.—ECCLESIASTICAL HISTORY.

Wednesday, October 29, 1890.—10 *to* 1 *o'clock.*

1. Sketch the development of the Episcopate from the time of Ignatius to that of Cyprian, and refer to the primary sources available for knowledge of the subject.
2. Mention what you consider to have been the chief historical conditions, external and internal, of the development of the Constitution of the ante-Nicene Church. Discuss Baur's view.
3. Write historical notes on the following terms:—1. Ordines minores; 2. Provincial Synods; 3. Ἀνάδοχοι; 4. Hetaeriae; 5. Ecclesiastical Discipline; 6. Jus circa sacra.
4. Give an account of Sabellius, of his theology, and of the controversy which it occasioned.
5. Examine (*a*) the influence of Gnosticism, *or* (*b*) of the Greek Philosophy on the development of the Doctrine of the Church.
6. Contrast the distinctive formulæ of 1. Arianism; 2. Homoious-

ianism; 3. Homoousianism; and state the grounds on which the first and second were rejected, and by what authority.

7. Give a historical and theological account of Homoiism.

8. Sketch and review the Apollinarian Controversy.

9. Summarise the accounts of the form and elements of the Sunday Worship of the Church given by 1. Pliny the Younger; 2. Justin Martyr; 3. The Apostolical Constitutions.

10. What is the Διδαχὴ τῶν ἀποστόλων? Shew its value in reference to enquiry into the Constitution, Doctrine, and Worship of the early Church.

11. Describe the condition of the Church of Scotland, the movements going on, and the relation of the parties in it, at the death of James VI.

12. Give an account of the Solemn League and Covenant, how occasioned, by whom subscribed, and with what results. Comment on its ecclesiastical and theological interest.

13. Give an account of the Commissioners of the Church of Scotland to the Westminster Assembly, and of the action of the Church in reference to the Westminster Confession of Faith. Comment on the influence of the Puritans on the Theology of Scotland.

14. Give historical accounts of the following:—1. The Whiggamore's Raid; 2. The Defeat at Rullion Green; 3. The Sanquhar Declaration; 4. The Claim of Right.

Thursday, March 26, 1891.—10 *to* 1 *o'clock.*

1. Point out the various factors and influences which determined the formation and acceptance of the dogma of the Unity and Catholicity of the Church.

2. Examine and illustrate historically the influence of Heresy and Schism on the Development of the Constitution of the Church.

3. Give an account of the institution of Metropolitan Bishops and Patriarchs, and of their respective functions and authority.

4. Indicate generally the Influence of Greek Ideas on the Development of the Doctrine of the Church. Refer to the views of Hatch.

5. Give an account of the Theological School of North Africa: its general character, chief representatives, and distinctive influence on the Development of Doctrine.

6. Explain what is meant by Dynamistic Monarchianism and give its history.

7. Give a historical and theological account of Semi-Arianism.

8. Distinguish the Christological from the Trinitarian Controversy, and give an account of the Christological heresy of Apollinaris, Bishop of Laodicæa.

9. Sketch the development of the Doctrine of the Sacraments of Baptism and the Lord's Supper during the period.

10. Describe how the ordinary Public Worship of the Church was

celebrated, and mention what Festivals were recognised, in the Fourth Century.

11. Give an account of the introduction of "Laud's Liturgy" into the Church of Scotland, and compare it as a Liturgy with John Knox's Liturgy and the Book of Common Prayer.

12. Describe generally the state of the Church in Scotland and the course of ecclesiastical events from 1660 to 1688.

13. Write short accounts of the life and works of any *three* of the following persons:—1. Archbishop Spottiswoode; 2. David Calderwood; 3. John Forbes of Corse; 4. Samuel Rutherford; 5. Robert Baillie.

14. Give historical accounts of—1. The Five Articles of Perth; 2. The Authority of the Privy Council and Scottish Parliament in ecclesiastical matters; and 3. The Test Act, *or* The Barrier Act.

II.—SYSTEMATIC THEOLOGY.

Wednesday, 29th October 1890.—2 *to* 5 *o'clock.*

The Person and Work of the Holy Spirit.

1. Give a general account of the New Testament teaching regarding the Holy Spirit, with references to the chief proof passages.

2. Give an account of the various views entertained as to the Holy Spirit in the Ante-Nicene Church.

3. State the Protestant doctrine of the Work of the Holy Spirit as the *Spiritus regenerationis et sanctificationis;* and give some account of the controversies concerning *Gratia applicatrix* connected with it.

4. Examine some of the attempts to give a speculative development of the Person and Work of the Holy Spirit.

The Doctrine of the Atonement.

1. State and examine the chief objections which have been urged against the Catholic doctrine of the Atonement.

2. Give an account of the Arminian and Calvinistic theories as to the Atonement, and indicate the objections made to them, and how they were attempted to be answered.

3. State and examine the Governmental or Rectoral Theory of the Atonement.

4. State and examine the Theories of the Atonement held by any *two* of the following theologians:—Schleiermacher; Hofmann; Maurice; Dr Young; F. Socinus; Swedenborg.

The Christian Doctrine of a Future State.

1. Describe the chief features of the Pauline and Johannine Eschatology.

2. Trace the development of the Doctrine of a Future State in the Patristic and Medieval Church.

3. State and examine the theory of Conditional Immortality.

4. Review the Protestant doctrine of the State of the Soul between death and the final judgment.

Thursday, March 26, 1891.—2 *to* 5 *o'clock.*

THE PERSON AND WORK OF THE HOLY SPIRIT.

1. How is the work of the Holy Spirit related to the work of Christ as Prophet, Priest, and King?

2. Distinguish and characterise the different stages in the development of doctrine as to the Holy Spirit from the Apostolic Age to the Reformation.

3. Give a general view of the history of the controversy regarding the procession of the Holy Spirit from the Son, and state what you know of the Old Catholic Agreement on the subject (A.D. 1875).

4. State and examine any two attempts to give a speculative construction of the Doctrine of the Holy Spirit.

THE DOCTRINE OF THE ATONEMENT.

1. Mention some of the chief New Testament passages which ascribe to the death of Christ—(1) the remission of sins, (2) justification, (3) redemption, and (4) reconciliation to God.

2. Interpret as precisely as you can the words of John the Baptist :—"Behold the Lamb of God which taketh away the sin of the world."

3. State and review the chief theories held regarding the extent of the Atonement.

4. Sketch the development of the Moral Theory of the Atonement in the nineteenth century ; shew how it has been influenced by philosophical speculation ; and criticise the theory generally.

THE CHRISTIAN DOCTRINE OF A FUTURE STATE.

1. Give a general view of the development of belief as to the resurrection of the body.

2. State the chief conclusions regarding the resurrection of the body which seem to you proved or suggested by New Testament declarations, indicating how these declarations bear on your conclusions.

3. Summarise and review the Roman and Protestant doctrines as to an Intermediate State after death.

4. State and examine the cardinal theories held regarding the Nature and Duration of Future Punishment.

III.—BIBLICAL CRITICISM.

Thursday, October 30, 1890.—10 *to* 1 *o'clock.*

I. Translate :—

Οὐκ ὀκνήσω δέ σοι καὶ ὅσα ποτὲ παρὰ τῶν πρεσβυτέρων καλῶς ἔμαθον καὶ καλῶς ἐμνημόνευσα, συνκατατάξαι ταῖς ἑρμηνείαις, διαβεβαιούμενος ὑπερ αὐτῶν ἀλήθειαν. Οὐ γὰρ τοῖς τὰ πολλὰ λέγουσιν ἔχαιρον ὥσπερ οἱ πολλοί, ἀλλὰ τοῖς τἀληθῆ διδάσκουσιν, οὐδὲ τοῖς τὰς ἀλλοτρίας ἐντολὰς μνημονεύουσιν, ἀλλὰ τοῖς τὰς παρὰ τοῦ Κυρίου τῇ πίστει δεδομένας, καὶ ἀπ' αὐτῆς παραγινομένοις τῆς ἀληθείας. Εἰ δέ που καὶ παρηκολουθηκώς τις τοῖς πρεσβυτέροις ἔλθοι, τοὺς τῶν πρεσβυτέρων ἀνέκρινον λόγους· τί Ἀνδρέας ἢ τί Πέτρος εἶπεν ἢ τί Φίλιππος ἢ τί Θωμᾶς ἢ Ἰάκωβος ἢ τί Ἰωάννης ἢ Ματθαῖος ἢ τις ἕτερος τῶν τοῦ Κυρίου μαθητῶν, ἅ τε Ἀριστίων καὶ ὁ πρεσβύτερος Ἰωάννης τοῦ Κυρίου μαθηταὶ λέγουσιν. Οὐ γὰρ τὰ ἐκ τῶν βιβλίων τοσοῦτόν με ὠφελεῖν ὑπελάμβανον, ὅσον τὰ παρὰ ζώσης φωνῆς καὶ μενούσης.

II. State your view of Papias' purpose and procedure as indicated in the foregoing passage. Particularly say what is the meaning of *πρεσβυτεροί, ἀλλοτρίαι ἐντολαί, ζῶσα φωνὴ καὶ μενούσα.*

III. (*α*) What was Marcion's Gospel? (*β*) On what principles did he proceed in editing it? (*γ*) What were the principal omissions he made from the canonical narrative?

IV. (*α*) What was the original language of St Matthew's Gospel? (*β*) Give your reasons for your opinion. (*γ*) Was it the Gospel we now have?

V. Tell what you know of the nature and aim of the critical discussions connected with the Pastoral Epistles, and what you consider to be their outcome?

VI. (*α*) What are the five books into which the Psalter may be divided? (*β*) Could the fifth be subdivided? (*γ*) State any distinguishing characteristics of each of the several books.

VII. (*α*) Shew how the book of Isaiah is subdivided by many critics? naming the passages which are ascribed to others than Isaiah. (*β*) State and criticize the principles of the subdivision.

VIII. Show how Zechariah is subdivided. State the principle, and examine it.

IX. State the distinguishing features and chief contents of the books of Amos, Hosea, Nahum.

X. State from remembrance the evidence for and against the genuineness of the Doxology in the Lord's Prayer.

XI. In 1 Cor. xiii. 3, the received text has—

ἐὰν παραδῶ τὸ σῶμά μου ἵνα καυθήσωμαι.

ℵAB and the Memphitic have *καυχήσωμαι.*

DEFGL have *καυθήσομαι.*

CK *καυθήσωμαι.*

All Latin copies favour one or other of the last two readings.

Looking at the Evidence :—

(*α*) What reading do you prefer? Give reasons.

(*β*) What would you expect to find in the Greek Testaments of Lachmann, Tregelles, Tischendorf, Westcott and Hort? Give reasons.

(*γ*) State what you know of CFGKL.

Friday, March 27, 1891.—10 *to* 1 *o'clock.*

1. To what prophetic writings does special interest attach as bearing on the early existence of Pentateuchal law and ritual? In connection with this, estimate the importance of the question as to the date of the prophecies of Joel.

2. In the first half of Isaiah what parts are said to be borrowed from older prophets, and what parts are referred by many to a later age and author? Remark on the statement, "xxi. 1-10 must be excluded on objective historical grounds from the list of doubtful prophecies." Give your view of the state of the case with regard to any other one of those prophecies of disputed date and authorship.

3. Give an account of the connection that has been affirmed between Jeremiah and Deutero-Isaiah and of the arguments against it.

4. Mention the passages in Job which, according to some critics, do not belong to the original poem, and state and support your view as to the longest of these sections.

Or,

(*a*) Indicate briefly the ground for holding Proverbs to be a synthesis of originally independent elements. (*b*) What are the usually recognised component parts of the book? (*c*) What account is to be given of the origin of chaps. i.-ix., and of the two larger collections of proverbs?

5. (*a*) Translate the following from Papias :—

Καὶ τοῦτο ὁ πρεσβύτερος ἔλεγε· Μάρκος μὲν ἑρμηνευτὴς Πέτρου γενόμενος, ὅσα ἐμνημόνευσεν, ἀκριβῶς ἔγραψεν, οὐ μέντοι τάξει, τὰ ὑπὸ τοῦ Χριστοῦ ἢ λεχθέντα ἢ πραχθέντα. Οὔτε γὰρ ἤκουσε τοῦ Κυρίου, οὔτε παρηκολούθησεν αὐτῷ, ὕστερον δὲ, ὡς ἔφην, Πέτρῳ, ὃς πρὸς τὰς χρείας ἐποιεῖτο τὰς διδασκαλίας, ἀλλ' οὐχ ὥσπερ σύνταξιν τῶν κυριακῶν ποιούμενος λογίων, ὥστε οὐδὲν ἥμαρτε Μάρκος, οὕτως ἔνια γράψας ὡς ἀπεμνημόνευσεν. Ἑνὸς γὰρ ἐποιήσατο πρόνοιαν, τοῦ μηδὲν ὧν ἤκουσε παραλιπεῖν, ἢ ψεύσασθαί τι ἐν αὐτοῖς.

(*b*) Say what Schleiermacher found in this as to Mark.

(*c*) Is the description applicable to the canonical Gospel according to Mark?

(*d*) Shew how far the statement of Papias as to the relation between Mark and Peter represents a tradition of the early Church. What do you gather from Justin Martyr, Irenæus, Clement of Alexandria, about it?

6. Describe and estimate the theories of Eichhorn, Gieseler, Holtz-

mann, and Weiss as to the origin and relations of the Synoptic Gospels, giving a special outline of the theory (whether one of these or not) you prefer.

7. Give a descriptive account of the Gospels of Mark and Luke, noting any specialties in style, order, contents, and apparent purpose.

8. (*a*) Translate—

Οὐκοῦν ὁ μὲν Ἰωάννης τῇ τοῦ κατ' αὐτὸν εὐαγγελίου γραφῇ, τὰ μηδέπω τοῦ βαπτιστοῦ εἰς φυλακὴν βεβλημένου πρὸς τοῦ Χριστοῦ πραχθέντα παραδίδωσιν, οἱ δὲ λοιποὶ τρεῖς εὐαγγελισταὶ τὰ μετὰ τὴν εἰς τὸ δεσμωτήριον κάθειρξιν τοῦ βαπτιστοῦ μνημονεύουσιν. Οἷς καὶ ἐπιστήσαντι οὐκέτ' ἂν δόξαιεν διαφωνεῖν ἀλλήλοις τὰ Εὐαγγέλια, τῷ τὸ μὲν κατὰ Ἰωάννην τὰ πρῶτα τῶν τοῦ Χριστου πράξεων περιέχειν, τὰ δὲ λοιπὰ τὴν ἐπὶ τέλει τοῦ χρόνου αὐτῷ γεγενημένην ἱστορίαν· εἰκότως γοῦν τὴν μὲν τῆς σαρκὸς τοῦ Σωτῆρος ἡμῶν γενεαλογίαν ἄτε Ματθαίῳ καὶ Λουκᾷ προγραφεῖσαν, ἀποσιωπῆσαι τὴν Ἰωάννην, τῆς δὲ θεολογίας ἀπάρξασθαι ὡσὰν αὐτῷ πρὸς τοῦ θείου πνεύματος οἷα κρείττονι παραπεφυλαγμένης. Ταῦτα μὲν οὖν ἡμῖν περὶ τῆς τοῦ κατὰ Ἰωάννην Εὐαγγελίου γραφῆς εἰρήσθω. (Eus. H. E. III. 24.)

(*b*) Compare with the above the statement of Clement of Alexandria that St John wrote a spiritual Gospel knowing that this remained to be done.

9. What are the views of Schleiermacher, Baur, Reuss, and Renan as to the authorship and date of the Pastoral Epistles?

10. Examine Baur's position.

11. What were the χήραι of 1 Tim. v.? Was there more than one class? Did any order under that name continue long in the Church?

12. What is the meaning of *ἑνὸς ἀνδρὸς γυνή, μιᾶς γυναικὸς ἀνήρ*?

13. Describe the Uncial MSS. D, Ξ, Σ, Φ, Ψ.

14. Give the evidence for and against the *Textus Receptus* (*ἐν ἀνθρώποις εὐδοκία*) in St Luke ii. 14.

15. The MSS. evidence in Coloss. ii. 2 is thus stated by Sanday:—

τοῦ μυστηρίου τοῦ θεοῦ [*καὶ πατρὸς καὶ τοῦ χριστοῦ*]. $D^{c}EKL$, etc. Syr-Harcl. *txt*. Thdrt. al.: *item*, *τοῦ θεοῦ πατρὸς καὶ τοῦ χριστοῦ*, 47, 73; Syr-Pesh.; Theod-Mops.-lat. Chrys. *codd*.

τοῦ θεοῦ. $D^{b}P$ 37, 67 ** *al. pauc.*

τοῦ ἐν χριστῷ. 17, Arm. Clem.-Alex. *bis* Ambrst.

ὅ ἐστι χριστός. D* d e Aug., nearly Aeth.

πατρὸς τοῦ χριστοῦ. $\aleph^{*\,et\,c}$ AC minusc. pauc. Vg. Memph. Theb.

τοῦ θεοῦ χριστοῦ. B; Hil.

State how the reading in the *Textus Receptus* has probably arisen, and give your reasons for the reading you prefer.

BACHELORS OF DIVINITY.

17th April 1891.

James Cairns, M.A.
James M. Campbell, M.A.
Alex. H. Christie, M.A.
James Hay Deas, M.A.
Samuel Dunlop, M.A.
James Gracie, M.A.
Robert Gray, M.A.
James M. Kirkpatrick, M.A.
Robert Lamb, M.A.
Alexander Lowe, M.A.
David C. Macmichael, M.A.
James Malcolm, M.A.
Alexander Menzies, M.A.
Alexander Morrison, M.A.
Thos. W. G. Sutherland, M.A.
Alexander Waters, M.A.
Andrew Watt, M.A.

DEGREE OF DOCTOR OF DIVINITY (D.D.).[1]

The Degree of Doctor of Divinity is conferred *honoris causâ tantum:*—and is granted in absence in special cases only. The Register of Doctors of Divinity begins in 1709, with the names of Edmund Calamy, Daniel Williams, and Joshua Oldfield. The names of Evans, Harris, and Isaac Watts follow in 1728. The Register now includes above 300 names.

The following is a list of those who have received the Degree of Doctor of Divinity since 1885[2]:—

1887.

David Duff, LL.D.
Thomas Charles Edwards
John M'Laren
William Welsh

1888.

Thomas Brown
David Johnstone, B.A., B.D.
Alexander Oliver, B.A.
Alberto Revel

1889.

*Griffith John
*Professor Abraham Kuenen
Archibald Henry Sayce, M.A.
Norman M. L. Walker

1890.

David Douglas Bannerman
R. H. Lundie, M.A.
Canon J. H. Overton

17th April 1891.

Rev. Robert Hutton, M.A., Minister of the Parish of Cambusnethan.
*Rev. John Gibson Paton, Missionary, New Hebrides.
Rev. D. W. Simon, M.A., Ph.D., Professor of Theology, Congregational Theological Hall, Edinburgh.

[1] Those to whom the Degree has been offered, if unable to be present at the Graduation Ceremonial immediately ensuing, may present themselves at any subsequent ceremonial, on giving at least a week's notice.

[2] The names of those who received the Degree, prior to 1859, will be found in the "Catalogue of the Graduates in the Faculties of Arts, Divinity, and Law of the University, since its foundation," published in 1858, and the names of those who received the Degree from 1859 to 1888, both years included, will be found in the List of Graduates, published in 1889.

* Conferred *in absentia*.

Bursaries, Scholarships, Fellowships, &c.

I.—BURSARIES.

A.—Presentation Bursaries.

No. of Foundation.	Year of Found.	Name of Founder.	Total Annual Income.	No. of Bursars.	Years.	Annual Allowance to each Bursar	Patrons.
I.	1703	Agnes Nairne.	£3 0 0	1	1	..	Senatus Academicus.
II.	1715	Sir James M'Lurg of Vogrie, sometime Dean of Guild of Edinburgh.	8 6 8	1	4	£8 6 8	Dean of Guild of Edinburgh, and Wm. Brown, Esq., surgeon, alternately
III.	1764	Rev. John Penman, Minister of Bothkennar.	8 0 0	1	4	8 0 0	R. G. G. Gilmour of Craigmillar.
IV.	1766	Rev. Robert Alexander, Minister of Girvan.	About 19 0 0	1	4	About 19 0 0	Kirk-Session of Girvan and Presbytery of Ayr.
V.	1838	Robert Blair, D.D., Barton St Andrews, Norfolk	14 8 0	1	4	14 8 0	Governors of George Heriot's Trust, Principal of the University, Minister of the High Church, & Minister of New Greyfriars' Church.
VI.	1838	Do. Do.	About 23 0 0	1	4	About 23 0 0	The Principal, and Profs. of Hebrew, Divinity, Church History.
VII.	1838	J. Stewart Hepburn of Colquhalzie, Esq.	13 2 6	1	3	13 2 6	Committee of the Presbytery of Edin.
VIII.	1858	Do. Do.	13 2 6	1	3	13 2 6	Do.
IX.	1864	Do. Do.	13 2 6	1	3	13 2 6	Do.

I. In abeyance at present.

II. The *M'Lurg Bursary* is tenable for four years at the Theological Classes. *Bursar*—Vacant.

III. The *Penman Bursary*—1888, *Alex. H. Christie, M.A.*

IV. This Bursary consists of the interest of £420, lent on heritable security, and of £75, 17s. of accumulated interest. It must be held by a Student from the parish of Girvan, presented by the Session; whom failing, by one within the Presbytery of Ayr, to be appointed by the Presbytery. *Bursar—Arch. D. Scott, M.A.*

V. The *Blair Bursary* can be held only by a young man who has been brought up in George Heriot's Hospital, and has become a Student of Divinity in the University of Edinburgh. The amount depends on the rate of dividend payable on the stock in which the foundation money is invested. *Bursar*—1887, *William S. Stewart, M.A.*

VI. To be applied for the benefit of a Student of Divinity, whether a graduate or not. *Bursar*—1890, *John Kennedy, M.A.*

VII., VIII., and IX. The sums attached to these Bursaries are payable to Divinity Students of the Church of Scotland of the first or second year towards the expense of their education at the University of Edinburgh. Each is tenable for three years. For one bursary Gaelic-speaking students have a preference; for all, Students from the Presbyteries of Weem and Auchterarder. *Bursars*—1888, *A. L. Johnston, M.A.*

B.—Competition Bursaries.

No. of Foundation.	Year of Found.	Name of Founder.	Total Annual Income.	No. of Bursars.	For Years.	Annual Allowance to each Bursar.	Patrons.
I.	1646	Buchanan of that Ilk.	£20 16 8	2	3	£10 8 4	Town Council.
II.	1666	William Struthers.	13 17 9	1	3	13 17 9	Do.
III.	1685	Archibald Leighton.	7 10 0	1	3	7 10 0	Do.
IV.	1687	Andrew Ramsay and Sir Andw. Ramsay of Abbotshall.	16 13 4	1	3	16 13 4	Do.
V.	1695	King William III.	50 0 0	2	2	25 0 0 About	Senatus Academicus.
VI.	1867	Miss Mary Ettles of Inverness.	110 9 3	3	3	35 0 0	Senatus.
VII.	1873	Grierson of Ogscastle's Trustees.	80 0 0	3	1	26 13 4	Senatus.
VIII.	1878	Mrs Isabella Webster.	150 0 0	2 1	3 3	56 5 0 37 10 0	Senatus.
IX.	1878	Dr Andrew Thomson	100 0 0	4	4	25 0 0	Trus. of Dr Thomson.
X.	1879	Mrs Barbara Mylne.	30 0 0	1	3	30 0 0	Moderator, Procurator, and Principal Clerk of General Assembly.
XI.	1882	William Renton.	19 17 8	1	3	19 17 8 About	Profs. of Theology.
XII.	1884	Robert Hunter.	33 15 0	2	2	16 17 6	Principal and Profs.
XIII.	1889	James Simson, Edinburgh.	175 0 0	7	3	25 0 0	Presbytery of Edinburgh.

I. By Ordinance, No. 79, of the Scottish Universities' Commissioners, and subsequent Order of her Majesty in Council 1868, each of the Buchanan Bursaries is open for competition to all Masters of Arts of any of the Universities of Scotland, or to Students who have passed the necessary Examinations for the Degree of M.A., but have deferred their Graduation with a view to Honours, entering on their first or second Session in the Faculty of Divinity in the University of Edinburgh. No person is admissible to competition who has for more than one Session been a Student in the Faculty of Divinity in any of the Scottish Universities. Each Bursar holds his Bursary for three years, subject to this condition, that he shall, during that period, give regular attendance, as a Student of Theology, in the University. If it appears to the Senatus Academicus desirable, for the purpose of distributing the benefits of competitive Bursaries in Theology among Students of different years, it is lawful, for that purpose only, to appoint

a Student for a shorter period. No person can hold the Bursary along with any other Bursary, Fellowship, or Scholarship in any Scottish University. *Bursars*—1889, *J. R. Macdonald, M.A.; John Muir, M.A.*, for two years.

II. By Ordinance, No. 80, of the Universities' Commissioners, and subsequent Order in Council, the regulations for this Bursary are the same as those for the Buchanan Bursaries. *Bursar*—1890, *Gordon C. Pringle.*

III. By Ordinance, No. 85, of the Univ. Com., and subsequent Order in Council, the regulations for this Bursary are the same as those for the Buchanan Bursaries. *Bursar*—1889, *M. B. M'Innes, M.A.*

IV. By Ordinance, No. 81, of the Univ. Com., and subsequent Order in Council, the regulations for this Bursary are the same as those for the Buchanan Bursaries. *Bursar*—1888, *James M. Kirkpatrick, M.A.*

V. By Ordinance, No. 76, of the Universities' Commissioners, and subsequent Order in Council, each King William Bursary is open to competition to all Masters of Arts of any of the Universities of Scotland, or Students who have passed the necessary examinations for the Degree of M.A., and who have attended for one Session, and no more, in the Faculty of Divinity in the University of Edinburgh: Provided that no person shall be a competitor who has attended for one or more Sessions in the Faculty of Divinity in any other of the Scottish Universities. The examinations in the competition shall be conducted by the Professors in the Faculty of Divinity in the University. Each Bursar shall hold his Bursary for two years, subject to the condition that he shall, during that period, give regular attendance as a Student of Theology in the University. No person shall hold either of the Bursaries along with any other Bursary, Fellowship, or Scholarship of any Scottish University. When the two Bursaries fall vacant at one time, one Bursar shall be appointed for two years, and the other for one year. *Bursars*—1890, *J. J. Trotter, M.A.* 1891, *Robert S. V. Logie, M.A.*

VI. Founded in memory of her brother, J. Ettles, Esq., of Havannah. Open to those who have passed all the examinations for M.A., and are in the first year of their theological course. Cannot be held with any other Bursaries or Scholarships. *See* Deed of Foundation in CALENDAR for 1867-68. *Bursars*—1888, *James N. Cuthbert, M.A.* 1889. *W. A. Knowles, M.A.* 1890, *Adam Fergusson, M.A.*

VII. As in the case of the Faculty of Arts (see No. LIII.), a student from the parishes of Crawford or Leadhills, is, if found duly qualified in respect of attainments, appointed to a Bursary in his first year, and holds it (unless he has failed to show himself a diligent student) to the end of his Theological curriculum. Failing any student from those favoured parishes, the Bursary or Bursaries will be thrown open to competition, but the winner only holds his Bursary for one year in each case. In the second and third years a student from Crawford or Leadhills has again a preference, but holds the Bursary for one year only. *See* p. 372 of CALENDAR, 1877-8. *Bursars*, 1890—First year, *Charles D. M'Intosh*; second year, *John Craig, M.A.*; third year, *Thomas W. G. Sutherland, M.A.*

VIII. Founded by Mrs Isabella Webster, 38 Heriot Row, Edinburgh, in memory of her husband, George Webster, Esq. There are three Bursaries,—two of £56, 5s. each, and one of £37, 10s., open to Students of Divinity in connection with the Church of Scotland in their first year, who have successfully passed all their Examinations for the degree of M.A. in any Scottish university.

whether they have actually graduated or not. Each is tenable for three years. *See* Deed of Foundation in CALENDAR for 1878-9, p. 377. *Bursars*—1889, *D. A. Rollo, M.A.; S. J. Ramsay Sibbald, M.A.*, for two years. 1890, *William B. Stevenson, M.A.*

IX. For the *Thomson Bursaries* application may be made to Messrs Traquair, Dickson, & Maclaren, 11 Hill Street. Candidates of the name of Thomson or Traquair, or natives of the town or county of Dumfries, or of the city of Edinburgh, preferred. The subjects of Examination are Latin and Classical Greek, Mathematics and Natural Philosophy, Mental Philosophy (including Logic) and Moral Philosophy and Elementary Hebrew, Apologetics, and Greek Testament. *See* p. 374 of CALENDAR for 1880-81. *Bursars*—1888, *James Thomson, M.A.* 1889, *William Serle, M.A.* 1890, *Duncan Cameron, M.A.*

X. *Mylne Bursary.*—Founded by Mrs Barbara Macaulay or Mylne, in memory of her husband, the Rev. Andrew Mylne, minister of the parish of Dollar. The Bursary (being the free proceeds of £750) which is for behoof of Students for the ministry of the Church of Scotland, of Scottish birth, tenable during the curriculum in Divinity, is awarded at the end of the session, after examination (of first year's students) on the subjects taught in the Theological Classes during the session. No one may become a Candidate who has not given his whole time to study during the session preceding the date of Examination, nor may the holder engage in paid work during any session in which he holds the Bursary. It cannot be held along with any other Bursary, Scholarship, or Endowment. *See* Deed of Foundation at page 377 of CALENDAR for 1880-1. 1889, *Andrew Watt, M.A.*

XI. Founded by the late William Renton, of 20 Royal Terrace, Edinburgh. The Faculty of Theology are the Patrons and Trustees. The Bursary may be held for three years, if the Bursar continues so long to prosecute his studies in Theology at the University of Edinburgh, with a view to the ministry in the Church of Scotland, and if not, then for the whole period he continues at the same. The student presented must have attained the age of sixteen, and not exceed the age of twenty-one years, and must be appointed after an examination in the month of November on such subjects as the Professors of the Faculty of Theology consider proper. 1890, *James A. Robertson, M.A.*

XII. Founded by the late Robert Hunter, Dalhousie, Chesters; the Principal and Professors being Patrons. These Bursaries are for the benefit of Students of the Church of Scotland, and are awarded at close of first Session in Divinity, and are tenable for two years. Bursars must attend two Sessions in Chemistry and Geology, taking at least one of these Classes each Session. Students of the name of Hunter and Hamilton from the parishes of Temple or Cockpen have a preference, but preferential Candidates must attain to a fixed percentage. Bursars must produce certificates of diligence in the Classes of Chemistry and Geology. See excerpt from Deed of Foundation, page 437 of CALENDAR for 1885-86. 1890, John Gray. 1891, *Arch. Jas. Miller, M.A.*

XIII. These Bursaries are open to Students who are entering on their first Session in Divinity, and are tenable for three years. For further details apply to the Rev. Dr Langwill, Currie, or to the Rev. John Patrick, Greenside, Edinburgh. *Bursars*—1890, *John Muirhead, M.A.; John Wedderspoon, M.A.; Ian K. Fraser, M.A.*

C.—PRESENTATION BURSARIES, Open only to Graduates or Students who have passed the necessary Examinations for the Degree of M.A., but have deferred their Graduation with a view to Honours.

No. of Foundation.	Year of Found.	Name of Founder.	Total Annual Income.	No. of Bursars.	For Years.	Annual Allowance to each Bursar.	Patrons.
I.	1695	Robert Bayne of Pitcairley.	£25 0 0	1	3	£25 0 0	Society of Sons of the Clergy.
II.	1695	James Nairne.	16 13 4	1	3	16 13 4	Prof. of Divinity.

I. This formerly belonged to Ferguson of Raith, and was sold by him to the late Principal Lee; and by Principal Lee's representatives to Professor Crawford; and by Professor Crawford's representatives to the Society for the Sons of the Clergy. By Ordinance, No. 71, of the Universities' Commissioners, and subsequent Order in Council, the following are the regulations as to this Bursary:—Each Bursar shall hold the Bursary for three years, subject to the condition that he shall, during that period, give regular attendance as a Student in Theology in the University of Edinburgh. No person shall hold the Bursary along with any other Bursary, or with any Scholarship in the University. *Bursar*—1889, *J. W. MacGill, M.A.*

II. This Bursary is tenable for three years, or for such period as the Bursar shall give regular attendance as a Student of Theology in the University of Edinburgh. *See* Ordinance, No. 67, of the Universities' Commissioners, and subsequent Order in Council. *Bursar*—1890, *John L. Symington, M.A.*

D.—BURSARIES gained in Faculty of Arts, the holders of which are at liberty to study in the Faculty of Divinity.

No. of Foundation.	Year of Found.	Name of Founder.	Total Annual Income.	No. of Bursars.	For Years.	Annual Allowance to each Bursar.	Patrons.
I.	1871	The Sibbald Trustees.	About 150 0 0	5	4	About 30 0 0	The Trustees of Dr J. R. Sibbald.

I. *See* under Bursaries in Arts, No. LII. Sibbald Bursaries (pp. 195 and 201).

II.—PRIZES.

I.—BARTY MEMORIAL PRIZE.

The Barty Memorial Prize of £25 for scholarship in Hebrew and Hellenistic Greek is open to entrants to the Divinity Halls of the four Scottish Universities.

1888-89. S. J. Ramsay Sibbald, Edin.
1889-90. David M. Kay, M.A., B.Sc. Edin.

II.—HEPBURN PRIZE.

The Hepburn Prize of £25, open to all Students in actual attendance at the Divinity Hall, may be awarded annually for an essay on a prescribed subject.

1889. Robert James Thompson.

III.-X.—THE GUNNING VICTORIA JUBILEE PRIZES.

With a view to promote the study of Natural Science among candidates for the ministry, and to bring out among ministers the fruits of study in Science, Philosophy, Language, Antiquity, and Sociology, Dr R. H. Gunning, of Edinburgh and Rio de Janeiro, has founded ten prizes in the Faculty of Divinity of the University of Edinburgh, to be known as "The Gunning Victoria Jubilee Prizes."

These prizes are ten in number, and comprise a series of five prizes of £50, £40, £30, £20, and £10, for excellence in Theological subjects, and a series of five prizes of similar values for excellence in Natural Science subjects. In their order the prizes in each series correspond in value. The successful competitors may each take both the prize in the Theological, and the prize in the Natural Science series to which their marks may respectively entitle them.

A minimum standard of proficiency shall be required in each series, and no competitor shall be awarded a prize who has not attained to this standard in both series. The prizes are competed for triennially at the close of the Divinity Session, and are open to all Students of the Church of Scotland, or other Scottish Churches holding the Confession of Faith, who are graduates of this University, or have attended two classes in the Faculty of Divinity in this University, and who have completed their Theological curriculum within two years of the close of the session when the competition takes place.

The examination in the Natural Science series will be on Natural History, Botany, and Geology, and of the same standard as the First B.Sc. Examination in Natural Science. The examination in the Theological series will be in Theology proper, the Language and Literature of the Old Testament, Ecclesiastical History, and Biblical Criticism.

The Examiners shall be the Professors of the subjects of examination in the University of Edinburgh; with the addition of a member of the Senatus of the New College, to be appointed by the Faculty of Divinity.

The first examination under this scheme will be held at the close of Session 1892-93. See Revised Scheme, p. 519 of CALENDAR 1889-90.

III.—SCHOLARSHIPS.[1]

I.—PITT CLUB DIVINITY SCHOLARSHIP.

This Scholarship was instituted in 1862 by the Pitt Club, is of the annual value of £111, 8s. 2d., and is tenable for three years. By Ordinance No. 77, of the Universities' Commissioners, this Scholarship is open to competition to all Masters of Arts of any of the Universities of Scotland who have given regular attendance in the Faculty of Divinity in the University of Edinburgh for three complete Sessions, and who are in the course of studying, with the view of becoming Clergymen of the Church of Scotland. No person is admissible who has been entered as a Student of Divinity more than six years prior to the time of the competition.

Candidates are examined on (1) The Evidences of Revealed Religion; (2) Systematic Theology; (3) Hebrew; (4) Church History; (5) Biblical Criticism. It cannot be held with any other Scholarship, Fellowship, or Bursary of any Scottish University, or along with any parochial or pastoral charge, whether as minister or assistant.

1887. George Galloway, B.D. | 1890. *Alex. S. Martin, M.A.*

II.—MAXTON DIVINITY SCHOLARSHIP.

This Scholarship was founded by the Trustees of the late John Maxton, Esq., in 1867, is of the annual value of £42, 8s., and is tenable for three years. It is open only to Students who are members of the Established Church of Scotland, and who have completed the course of study in the Faculty of Divinity in the University of Edinburgh. (*See* Deed of Foundation, at p. 234 of CALENDAR for 1867-8.)

1887. Henry Ranken, B.D. | 1890. *John James Galloway, M.A.*

---

[1] The names of Scholars are retained in the Calendar for five years.

It has been agreed by the Senatus and the Faculty of Divinity, in regard to the Fellowships and Scholarships of the funds of which they are severally the administrators, that

1. The *Pitt Theological Scholarship* (£108, 2s. 8d.) shall be competed for when it falls vacant.
2. The *Aitken Theological Scholarship* (£103, 14s. 2d.) shall be reserved from competition when it falls vacant in the same year with the Pitt.
3. The *Glover Divinity Scholarship* (£34, 8s.) shall (according to its conditions) not be open to competition when the Pitt or Maxton may be open, and shall be similarly reserved when the Aitken is open.
4. That meanwhile the *Maxton* (£42, 8s.) be competed for when it is vacant.

III.—THE GLOVER DIVINITY SCHOLARSHIP.

This Scholarship was founded in 1875 by Subscribers to a Fund for commemorating the memory of the Rev. W. Glover, D.D., and by the University Endowment Association. It is of the annual value of about £34, 8s., tenable for three years, and open to all Masters of Arts of any of the Universities of Scotland who have finished their study of Theology, before entering the Church of Scotland, within six years, and who have attended the last Session of their course at least in the University of Edinburgh. It cannot be held with any other Divinity Scholarship or Bursary in any Scottish University, and it is not offered for competition in any year where there is a vacancy in the Pitt Divinity Scholarship or the Maxton Divinity Scholarship. *See* Deed of Foundation, at p. 343 of CALENDAR for 1875-76.

IV.—THE AITKEN THEOLOGICAL SCHOLARSHIP.

This Scholarship, founded in 1875 by bequest of the Rev. David Aitken, D.D., formerly minister of Minto, is of the annual value of £109, 19s. 2d. Its purpose is to make provision for the study of Church History and Biblical Criticism at one or more University Seats in Germany, or elsewhere on the Continent of Europe, in the case of meritorious students at Edinburgh University. It is to be awarded, after competitive examination (on due proficiency being shewn), to a Student in Divinity of the University of Edinburgh, who is a Graduate in Arts of that University of not more than four years' standing. It is tenable for two years; but the Senatus may extend the term for another year if it appear to them desirable. The time of the competition to be fixed and publicly intimated by the Senatus at least three months before; and the Senatus are also at liberty to prescribe whether one Semester or two Semesters in the foreign University shall be attended in each year. It is not offered for competition in the same year as the Pitt Divinity Scholarship or the Glover Divinity Scholarship. *See* Deed of Foundation at p. 344 of CALENDAR for 1876-77.

1888. Alexander Still, B.D., who resigned it for the "David Kidd" Scholarship.	1889. John C. Matthews, B.D.

V.—THE DAVID KIDD DIVINITY SCHOLARSHIP.

This Scholarship, which is of the annual value of £34, 6s. 10d., is tenable for three years, and is awarded, after competitive examination in Theology (same as for B.D.), to students of any of the Universities of Scotland who are natives of Scotland, and who have finished their course of study with the view of becoming Ministers of the Church of Scotland. *See* Deed of Foundation in CALENDAR for 1879-80, p. 354.

1888. Alexander Still, B.D.

VI.—GUNNING SCHOLARSHIPS IN NATURAL SCIENCE AND IN NATURAL THEOLOGY OR CHRISTIAN APOLOGETICS.

(*Discontinued since* 1889.)

1885. (1) John Stenhouse, M.A.; (2) W. A. Reid; (3) Alexander Whyte, M.A., B.Sc.

1887. (1) D. Simpson Brown, M.A.; (2) John D. MacGilp; (3) J. F. Miller, M.A.

1889. (1) *J. D. Gilchrist, M.A.;* (2) *W. L. Wilson, M.A.;* (3) Not awarded.

VIII.—VANS DUNLOP SCHOLARSHIP IN HEBREW AND ORIENTAL (SEMITIC) LANGUAGES.

The Competition is open to all Matriculated Students (*a*) who have regularly attended Classes in the University for not less than two and not more than seven years, (*b*) who have attended at least two courses under the Professor of Hebrew and Oriental Languages, and (*c*) who have not discontinued attendance at the University for more than one year.

Candidates will be examined in Hebrew, Syriac, and Arabic.

The Examiners are the Professor of Hebrew and Oriental Languages, and an Examiner to be appointed by the Senatus.

The conditions of tenure are the same as those applicable to the Vans Dunlop Scholarships in Arts. The next competition will take place on March 1893.

1887. John Mair, M.A., in Hebrew, Syriac, and Arabic.

1890. { *James Thomson, M.A.,* / *Charles H. Titterton, M.A.* } equal.

IX.—VANS DUNLOP SCHOLARSHIP IN HISTORY.

The competition is open to all Matriculated Students of not less than two, and not more than six, years' standing, who have attended one or more courses of Lectures either by the Professor of History or by the Professor of Ecclesiastical History, and who have not discontinued attendance at the University for more than one year. The Examiners are the Professor of History, the Professor of Ecclesiastical History, and either the Professor of Humanity or the Professor of Greek. The next Examination will be held in October 1892.

X.—BRUCE OF GRANGEHILL AND FALKLAND SCHOLARSHIPS.

These Scholarships were founded in 1865 by Mrs Tyndall Bruce of Falkland, and are of the annual value of £100. They come into operation only when a vacancy occurs in any one of the three Scholar-

ships of this name in the Faculty of Arts, by the death, resignation, or dismissal, of a Scholar during the period of his tenure of the Scholarship; and are tenable in this Faculty during the remainder of that period. They cannot be held with any other Scholarship or Fellowship of a Scottish University, or with any situation yielding an income of £100 a year. The subjects of Examination are prescribed from time to time by the Faculty.

1887. J. More Middleton, M.A.
1888. Alexander S. Martin, M.A.
1891. *David A. Rollo, M.A.*

XI. and XII.—THE JEFFREY SCHOLARSHIPS.

These Scholarships, two in number, were founded in 1887 by Miss Jane Jeffrey of Victoria Terrace, Portobello. They are each of the annual value of about £77, and are tenable for one year. They are awarded annually for special proficiency in the subjects embraced in each of the four departments of Divinity, Hebrew and Oriental Languages, Ecclesiastical History, and Biblical Criticism; and are open to Students of Divinity in connection with the Church of Scotland who shall have given regular attendance for at least one Session on the Divinity Classes in this University, including the class with which the Scholarship competed for is specially connected. They are competed for in the following order:—first year, Divinity, and Hebrew and Oriental Languages; second year, Ecclesiastical History and Biblical Criticism; and so on from year to year. The Examination at the close of Session 1891-92 is in Ecclesiastical History and Biblical Criticism. *See* Deed at page 497 of CALENDAR for 1888-89.

1889. *Divinity*—William C. Allan, M.A.
Prox. accessit, William Roger, M.A.
Hebrew and Aramaic—John William Murray.
1890. *Ecclesiastical History*—Peter Macgregor, M.A.
Biblical Criticism—Samuel Dunlop, B.A.
1891. *Divinity*—James M. Kirkpatrick, M.A.
Hebrew and Arabic—James N. Cuthbert, M.A.

XIII.—COBB SCHOLARSHIP.

This Scholarship, founded in 1889, is a bequest by the late Miss Matilda Johnston Cobb, Broughty Ferry. It is of the annual value of £35, and is tenable for three years. The subjects of Examination are Hebrew, Greek, Latin, and Mathematics, and the Scholarship is open to competition amongst Students who are entering on the study of Divinity with a view to becoming Ministers of the Church of Scotland.

1890. *John Hunter, M.A.*

IV.—FELLOWSHIP.

THE GUNNING FELLOWSHIP IN NATURAL SCIENCE AND IN THEOLOGY.

(*Discontinued since* 1889.)

1887. A. D. Sloan, M.A., B.Sc.	1889. *George D. Hutton, M.A., B.Sc.*

V.—THE GUNNING VICTORIA JUBILEE LECTURESHIP.

With a view to promote the study of Natural Science among candidates for the ministry, and to bring out among ministers the fruits of study in Science, Philosophy, Language, Antiquity, and Sociology, Dr R. H. Gunning, of Edinburgh and Rio de Janeiro, has founded a Lectureship in the Faculty of Divinity of the University of Edinburgh, to be known as "The Gunning Victoria Jubilee Lectureship."

The Gunning Lectureship is a triennial appointment of the value of £100, and the appointment shall be made by the Faculty of Divinity. The Lecturer may be any Scottish Presbyterian clergyman at home, or in the Mission field, eminent in Science, Philosophy, Language, Antiquity, or Sociology, and the Lectures may be delivered in the University of Edinburgh, or such other place as the Faculty may appoint.

The first appointment will be made at the close of Session 1892-93. See Revised Scheme, p. 519 of CALENDAR 1889-90.

VI.—WILLIAM DICKSON TRAVELLING FUND.

This Fund is for the purpose of assisting Graduates of any Faculty, of not more than three years' standing, to travel for the purposes of Study or Research. For particulars, see page 225.

Scholarships, Bursaries, and University Prizes,

OPEN FOR COMPETITION IN THE FACULTY OF DIVINITY DURING THE ACADEMIC YEAR COMMENCING 1ST OCTOBER 1891.[1] [2]

I. PRESENTATION BURSARIES.

1. *The M'Lurg Bursary*, of the annual value of £8, 6s. 8d., tenable for four years. *Patron*—The Dean of Guild of Edinburgh, and the representative of the late Wm. Brown, Esq., Surgeon, alternately.

2. *The Blair*, No. V., of the annual value of about £14, 8s., tenable for four years. *Patrons*—Governors of George Heriot's Trust, Prin-

[1] *Note.*—None of the undernoted Bursaries or Scholarships can be held along with any other Bursary, Fellowship, or Scholarship in any Scottish University. Neither the Barty nor the Hepburn Prize is subject to this condition.

[2] The values of the Scholarships, Bursaries, and Prizes are subject to variation consequent on the rise or fall of the rate of interest, &c.

cipal of the University, minister of the High Church, and minister of New Greyfriars' Church.

3. *The Alexander Bursary*, of the annual value of about £19, tenable for four years, open to Students from the parish of Girvan; whom failing, to Students within the Presbytery of Ayr. *Patrons*—Kirk Session of Girvan; whom failing, the Presbytery of Ayr.

4. *The Penman Bursary*, of the annual value of £8, tenable for four years. *Patron*—R. G. G. Gilmour, of Craigmillar, Esq.

II. Competition Bursaries.

The Bursary Examination at the beginning of Session 1891-92, will be held on Friday, 13th, and Saturday, 14th November, commencing at 10 A.M. each day, when the following Bursaries will be open for competition:—

1, 2. *Two Webster Bursaries*, one of the annual value of about £36, tenable for three years; and one of the value of about £55, tenable for one year. Open to Students of Divinity in connection with the Church of Scotland, in their first year, who have passed all their Examinations for the degree of M.A. in any Scottish University. The holders are not allowed to engage in teaching, or in any other employment without permission of the Faculty.

3. *One Ettles Bursary*, of the annual value of about £35, open to those who have passed all their examinations for M.A., and are in the first year of their course in Divinity. Tenable for three years.

4. *One Thomson Bursary*, annual value £25, tenable for four years, will also be awarded. (For revised Scheme of Allocation, see Calendar for 1880-81.) Students of the name of Thomson or Traquair, or who are natives of the town or county of Dumfries or of the city of Edinburgh, have a preference. If no Candidate with a preferential claim appear, or if none such attain to the required standard in the Examination, the Bursary shall be awarded to the best non-preferential Candidate. The Candidates must be matriculated Students (not necessarily Graduates) entering on their *first* Session in Divinity, and are required to intimate their intention to compete to the Agents for the Trustees, Messrs Traquair, Dickson, & Maclaren, W.S., 11 Hill Street, Edinburgh, by 1st November 1891.

5. *One Buchanan Bursary*, value £10, 8s. 4d. Open to all Masters of Arts of any Scottish University, or to Students who have passed the necessary examinations for the degree of M.A., but have deferred their graduation with a view to honours, entering on their first or second session in the Faculty of Divinity in the University of Edinburgh. None can compete who has for more than one session been a Student of Divinity in any Scottish University. Tenable for three years, on condition of regular attendance.

6. *The Ramsay Bursary*, annual value £16, 13s. 4d. Open to all Masters of Arts of any Scottish University, or to Students who have passed the necessary examinations for the degree of M.A., but have

deferred their graduation with a view to honours, entering on their first or second session in the Faculty of Divinity in the University of Edinburgh. None can compete who has for more than one session been a Student of Divinity in any Scottish University. Tenable for three years, on condition of regular attendance.

The subjects of examination for the above, and for *any other ordinary competition Bursay for first year's Students that may be vacant* at the opening of the Session will be—

(1.) *Latin*—Livy, Books XXI., XXII., and translation from English into Latin prose.

(2.) *Greek*—Euripides' "Medea," and Demosthenes' "Philippic," III.

(3.) *Mathematics*—"Euclid," Books I.-VI.; Algebra and Elementary Trigonometry.

(4.) *Metaphysics*—Ferrier's "Lectures on Greek Philosophy."

(5.) *Moral Philosophy*—Sidgwick's "History of Ethics."

(6.) *Natural Philosophy*—Blaikie's "Elements of Dynamics," and Balfour Stewart's "Elementary Physics."

(7.) *Hebrew*—Elements of Grammar.

(8.) *Apologetics*—Flint's "Antitheistic Theories."

(9.) *Greek Testament*—Epistle to Hebrews and The Apocalypse.

7. *Grierson Bursaries.*—There are three of those Bursaries (each of annual value of £26, 13s. 4d.), to be competed for, one by first, one by second, and one by third year's Students in Divinity. A Student from the parish of Crawford or the parish of Leadhills is, if he has been a good Student in Arts, and is in need of pecuniary aid, appointed to a Bursary in his first year in Divinity, and holds it (unless he has failed to shew himself a diligent student) to the end of his curriculum. If there be two or more such applicants in any year, they are to be examined. Failing any Student from one of those favoured parishes, the Bursary or Bursaries will be thrown open to competition, but the winner only holds his Bursary for one year. In the second year a student from Crawford or Leadhills has again a preference, but holds the Bursary for one year only. See full particulars in CALENDAR (1877-8). Preferential candidates to lodge their applications with the *Clerk of Senatus* on or before 1st November 1891.

The subjects of examination for the Grierson Bursaries, if there be competition, will be :—

For the *first* year—

Same as for ordinary Competition Bursaries, except that *Hebrew*, *Apologetics*, and *Greek Testament* are omitted.

For the *second* year—

(1.) *Latin*—Lucretius, Book V., and Livy, Book II.

(2.) *Greek Testament*—Gospel of St Matthew, and Epistles of St Peter.

(3.) *Hebrew* — Grammar; Judges, chapters i.-xii. inclusive; Psalms i.-viii. inclusive.

(4.) *Divinity*—The Trinity; Doctrine of Sin.

(5.) *Ecclesiastical History*—To 325 A.D.

(6.) *Biblical Criticism*—Charteris' "Christian Scriptures."

For the *third* year—

(1.) *Apologetic Theology*—Butler's "Analogy."

(2.) *Hebrew*—2 Kings, Micah, Psalms i.-xx. inclusive.

(3.) *Ecclesiastical History*—To 325 A.D., and of Scotland, 1500 A.D. to 1600 A.D.

(4.) *Biblical Criticism*—"Canonicity," pp. 54-101.

8, 9. *Two Simson Bursaries*, each of the annual value of £25 and tenable for three years, are open to students who are entering on their first session in Divinity. For further details, apply to the Rev. Dr Langwill, Currie, or to the Rev. John Patrick, Greenside, Edinburgh.

10, 11. *Two Hepburn Bursaries* (about £13 each), open for competitition by all Students of first or second year in Divinity. Preference given to Students from the Presbyteries of Weem and Auchterarder. Subjects of Examination: *Butler's Analogy*, Part I., and *Lightfoot's Epistle to the Philippians*. For particulars apply to the Rev. Dr Scott, minister of St George's, Edinburgh.

12. *A Hepburn Prize*, £25 (which may be divided), for the best Essay on "The Jewish and the Christian Doctrines of Immortality." The Essay not to exceed fifty pages 4to, and to be handed to Rev. Dr Scott, 16 Rothesay Place, Edinburgh, on or before 1st December 1891.

13. *Barty Memorial Prize* of about £25 for Scholarship in Hebrew and Hellenistic Greek, is open to entrants to the Divinity Halls of the four Scottish Universities. Competitors to apply to J. W. Barty, Esq., Dunblane.

The Vans Dunlop Scholarship in History. Open to all Matriculated Students who have regularly attended classes in this University for not less than two and not more than six years, who have attended one or more courses of Lectures either by the Professor of History or by the Professor of Ecclesiastical History, and who have not discontinued attendance at the University for more than one year. The next competition will take place on the third Monday, Tuesday, and Wednesday of October, 1892, beginning at Ten A.M. each day.

The Subjects prescribed are :—

(1.) "History of Great Britain from 1714 to 1820."

(2.) "History of Scotland for a century and a half before the Union."

(3.) " History of Greece from B.C. 500 to B.C. 400, with special reference to the growth of the Athenian Constitution."
(4.) " History of France under Louis XIV."

At the close of Session 1891-92, the following will be open for competition :—

1. *The Aitken Scholarship* of about £109, 19s. 2d., tenable for two years, but tenure may be extended by the Senatus to three years. Holder must study Ecclesiastical History and Biblical Criticism at a Continental University. Open to a Student of Divinity of the University of Edinburgh, who is a Graduate of Arts of that University of not more than four years' standing. Examination as for B.D.

2. *The David Kidd Scholarship*, annual value about £34, 6s. 10d., open to Students of Scottish Universities, natives of Scotland, who have finished their course of study with a view to becoming Ministers of the Church of Scotland. Examination as for B.D.

3. *One of the King William Bursaries* of £25, tenable for two years, open to Students who have finished the first session of their Theological course, and have passed all the examinations for the degree of M.A. The subjects of examination for this Bursary will be the work of the Session in the Classes of Divinity, Ecclesiastical History, Biblical Criticism, and Junior Hebrew.

4. *The Mylne Bursary* of the annual value of about £30, open to Students of the Church of Scotland, and of Scottish birth. It is awarded at the end of the first session, and is tenable during the Divinity Curriculum. No one can become a candidate who has been engaged in paid work during the Session, and the Bursar cannot engage in paid work during any Session in which he holds the Bursary. Examination as for "King William " Bursary.

5. *A Robert Hunter Bursary*, annual value about £16, 17s. 6d., awarded at close of first Session in Divinity, and tenable for two years. Bursars must attend two Sessions in Chemistry and Geology, taking at least one of these classes each Session. Students of the name of Hunter and Hamilton, from the parishes of Temple and Cockpen, have a preference, but preferential Candidates must attain to a fixed percentage. Bursars must produce certificates from the Professors of Chemistry and Geology. Examination as for "King William.' These Bursaries cannot be held along with any other Bursary, Scholarship, or Fellowship in any Scottish University.

6, 7. *Two Jeffrey Scholarships*, each of about the annual value of £77, tenable for one year; one for special excellence in Ecclesiastical History, and one for special excellence in Biblical Criticism. They are open to Students preparing for the Ministry of the Church

of Scotland who have attended for *at least* one Session the classes in the Faculty of Divinity in this University, including the class with which the Scholarship competed for is specially connected. Successful Candidates must attain to a fixed percentage of marks.

The subjects for the Scholarship in Ecclesiastical History are :—

1. The main facts in the Development of the Constitution, Doctrine, and Worship of the Church, from 150 to 323 A.D.
2. The Schism between the Greek and the Roman Church.
3. The History of the Church in Scotland, from 1560 to 1690.

The subjects for the Scholarship in Biblical Criticism are :—

Canonicity, pp. i.-cxvi., and Testimonies, pp. 383-447.
The Uncial MSS. of the New Testament.
And Class Work, 1891-92.

UNIVERSITY PRIZES.

1. The *Lord Rector's Prize*, of twenty-five guineas, for the best Essay on "How far ethical considerations should enter into the domain of the Science of Political Economy." See page 228.

2. The *Trustees of Gray's Prize Essay Fund* offer three Prizes, one of £20 for the best, one of £10 for the second best, and one of £5 for the third best Essay on "The Life and Poetry of Milton." See page 207.

3. A Prize of Twenty Guineas, offered by the *Edinburgh University Club of London*, open to all Graduates of this University of not more than two years' standing, for the best Essay on "The Education of our Legislators." See page 228.

William Dickson Travelling Fund, for the purpose of assisting Graduates of any Faculty of not more than three years' standing, to travel for the purpose of Study or Research. Applications must be lodged with the Secretary of Senatus on or before 15th March annually. See page 225.

M. C. TAYLOR,
Dean of the Faculty of Divinity.

III.

FACULTY OF LAW.

1891-92.

Dean.

PROFESSOR KIRKPATRICK, LL.D.

5 *Murrayfield.*

Programme of Classes.

FACULTY OF LAW.

The Classes in the Faculty of Law will open as follows, and will close on Friday, 17th July.

Dean—Professor KIRKPATRICK, LL.D., Dr. Jur.

SUMMER SESSION, 1891.

Classes.	Days of Opening, and Hours of Lectures.	Professors.	Class Fees.
Civil Law	12 May, 4 o'clock	Prof. Goudy	£5 5[1]
Constitutional Law and History	12 May, 5 ,,	Prof. Kirkpatrick.	3 3
Scots Law	12 May, 9 ,,	Prof. Rankine	5 5[1]
Med. Jurisprudence	4 May, 10 ,,	Prof. Sir D. Maclagan	4 4

WINTER SESSION, 1891-92.

The Classes in the Faculty of Law will open on Thursday, 15th October, and will close on Friday, 18th March 1892.

Classes.	Days of Opening and Hours of Lectures.	Professors.	Class Fees.
Public Law	2 Nov., 3 o'cl.	Prof. Sir Ludovic Grant, Bart.	£3 3
Civil Law	15 Oct., 4 ,,	Prof. Goudy	5 5[1]
Scots Law	15 Oct., 9 ,,	Prof. Rankine	5 5[1]
Conveyancing	15 Oct., 9 ,,	Prof. Fraser-Tytler	4 4
Political Economy & Mercantile Law	28 Oct., 5 ,,	Prof. Nicholson	3 3
Constitutional Law	(*In Summer Sess.*)	Professor Kirkpatrick	3 3
Hist. and Constit. of U.S.A.	16 Oct., 3 o'cl.; (*Mon., Wed., & Fri.; 20 Lects.*)	Professor Kirkpatrick	1 1[2]
Med. Jurisprudence	(*In Summer Sess.*)	Prof. Sir D. Maclagan	4 4
Civil and Crim. Procedure (*Mondays*).	19 Oct., 5 o'cl. 20 *Lectures.*	Lecturer—John P. Coldstream, W.S.	1 1[2]
Practical Class (*Wednesdays*)	21 Oct., 10.30 to 12.30	Lecturer—John P. Coldstream, W.S.	3 3[2]

[1] This Fee is paid in Winter, and is for the Winter and Summer Sessions. Second Year's Course. £3, 3s.

[2] Five Shillings University Entrance Fee for Non-matriculated Students.

Order of Study.

Extract from Minutes of a Meeting of the Faculty, 20th February 1863.

The Faculty having taken into consideration that the Course of Study in Law for the Degree of LL.B. extends over three Academical years, and that the natural order in which the various branches of the Course ought to be taken up is often departed from and sometimes altogether inverted—recommend Students, whether intending to graduate in Law or not, to attend the Lectures in the following order, viz. :—

First year—Civil Law ;
Second year—Scots Law ;
Third year—Conveyancing ;

and to attend the Lectures on Public Law, Constitutional Law and Legal History, and Medical Jurisprudence, during the Second and Third years of study, in such order as may be most convenient.

Professorial Courses of Lectures.

I. CIVIL LAW.

PROFESSOR GOUDY.

The Course of Lectures on Civil Law extends over a Winter and a Summer Term, covered by one entrance-fee of £5, 5s. The Winter Lectures usually begin on 15th October, and continue until 20th March ; the Summer Lectures usually begin on 12th May, and end on 20th July.

The subject-matter of the Course is the External and Internal History, and the General and Special Doctrines of the Law of

Rome, as developed in the Institutes of Gaius and Justinian, supplemented from the other ante-Justinianian and Justinianian texts.

The Lectures will be equally adapted for students intending to enter the legal profession in Scotland or England, or qualifying for service in India or the Colonies.

Text-Books.—The Institutes of Gaius and Rules of Ulpian, and the Institutes of Justinian.

For preliminary reading students may consult Muirhead's "Historical Introduction to the Private Law of Rome," or Ortolan's "Histoire de la Législation Romaine" (of which there is an English translation).

II. SCOTS LAW.

PROFESSOR RANKINE.

Students are strongly recommended to make themselves familiar either with Erskine's "Principles" or his "Institutes" (edition by J. Badenach Nicolson, Esq., 1871). A new edition (the eighteenth) of the former work is the text-book of the Class.

1. Sketch of the Literature of the Law of Scotland—the sources of the Law—the interpretation of Statutes.

2. Personal Relations—marriage and the modes of proving it—patrimonial effects of Marriage—rights of husband and wife—dissolution of Marriage—divorce—tutors and curators—minors—insane—parent and child—succession—heritable and moveable—wills—trusts.

3. Wrongs—personal injury—defamation—ownership of heritable property—rights and liabilities incident thereto—ownership of moveables—copyright—patents.

4. Obligations and Contracts—general requisites, constitution, and construction — partnership — joint-stock companies—factory and agency—sale—commodate—pledge—letting to

hire—leases—carriers—shipping—insurance—bills of exchange —cautionry—extinction of obligations—diligence—bankruptcy.

5. Parochial Law—burgh and county law—rates and taxes.
6. Law of Evidence.
7. Criminal Law.

Summer Session.

The Lectures on Criminal Law, and part of the lectures on the above subjects, are delivered during the Summer Session.

III. CONVEYANCING.

PROFESSOR FRASER-TYTLER.

The course of Lectures delivered from the Chair of Conveyancing will embrace the following subjects :—

BRANCH FIRST—*Deeds in General.*

1. Capacity of the parties to contract, and lawfulness of the subject-matter. 2. Requisites as to external form, and the solemnities of execution and authentication. 3. Deeds privileged as regards these solemnities. 4. Delivery and acceptance. 5. Operation of error, fraud, force, and fear as grounds of reduction of Deeds. 6. Effect of *homologation* and *rei interventus* in validating Deeds imperfect or defective in themselves. 7. The Stamp Laws in their relation to conveyancing. 8. General structure of, and clauses common to all Deeds.

BRANCH SECOND—*Deeds relating to Moveable Rights.*

1. The personal bond and other personal obligations. 2. Personal contracts (exclusive of the contract of Marriage). 3. Deeds relating to corporeal moveables, including maritime writs. 4. Factories and powers of attorney.

BRANCH THIRD—*Deeds relating to Heritable Rights.*

1. Sketch of the feudal system and its bearing on the existing state of heritable rights in Scotland. 2. The writs constituting

a feudal estate, and the respective rights of superior and vassal. 3. The writs used in the voluntary transmission, *inter vivos*, of such estate, and of lands formerly held by burgage tenure. Under this head will also be considered the missive of sale and articles of roup, together with what constitutes a *prescriptive* progress of titles, and a full search of incumbrances. 4. The judicial transmission of heritage. 5. Heritable securities. 6. Leases.

BRANCH FOURTH—*Family Settlements and relative Deeds.*

1. Destinations. 2. The completion of titles by the heir or successor to heritable estate. 3. The contract of marriage and bond of provision. 4. Testamentary Deeds, applicable to either or both classes of estate. 5. The completion of titles by the executor to moveable estate. 6. Entails.

In each of these branches, the alterations made by modern legislation in the structure or effect of any of the deeds or writs treated of will be pointed out, and the old and new forms compared.

IV.—PUBLIC LAW.

PROFESSOR SIR LUDOVIC GRANT, BART.

The Course of Lectures delivered from the Chair of Public Law and the Law of Nature and Nations is divided into two branches :—

1. NATURAL LAW, the Philosophy of Law, or the principles of the science of jurisprudence as a whole.

2. INTERNATIONAL LAW, or the *jus inter gentes;* to which may be added a short course upon Private International Law.

The Course for Session 1891-92 will begin on Monday, 2nd November. The Lectures will be delivered *three* days a-week, and will terminate simultaneously with the other Classes in the Faculty of Law.

Text-Books.—Natural Law—Lorimer's Institutes of Law, 2d Edition. Ahrens's Cours de Droit Naturel. Trendelenburg's

Naturrecht auf dem Grunde der Ethik. Krause's Rechtsphilosophie (edited by Röder), and Röder's Naturrecht. Maine's Ancient Law. Holland's Jurisprudence.

History.—Wheaton's History of the Law of Nations. Pardessus's Us et Coutumes de la Mer. Lindsay's History of Merchant Shipping.

Public International Law.—Lorimer's Institutes of the Law of Nations. Bluntschli's Modernes Völkerrecht (of which there is a French translation entitled Droit International Codifié). Hefftter's Droit International Public. Lawrence's Commentaire sur les Éléments du Droit International. Wheaton's Elements of International Law, by Lawrence or Dana. Phillimore's International Law. Hall's International Law. Letters by Historicus.

Private International Law.—Savigny's Private International Law, by Guthrie, 2d Edition. Bar's Internationales Privat-und Strafrecht, translated by Gillespie; or better, Theorie und Praxis des Internationalen Privatrechts von L. v. Bar (Zweite umgearbeitete Auflage des Internationalen Privat- und Strafrechts). Westlake's Private International Law, 2d Edition.

V. HISTORY.

PROFESSOR KIRKPATRICK.

The Lectures are given in the Summer Session, daily, except Saturdays, at 5 P.M.; and a fortnightly examination is held on Fridays. Prizes are awarded for distinction in the class-examinations, and also for two essays on subjects to be afterwards announced.

Subject—The Constitutional History and Law of England, with occasional reference to the constitutions of other countries.

Students are recommended to consult Stubbs's Select Charters and English Constitutional History; Hallam's Middle Ages, Chap. viii.; Hallam's Constitutional History of England, from the reign of Henry VII. to George II.; Sir Thomas Erskine

May's Constitutional History, for the period from the accession of George III.; The Annals of England (Parker, 1876); The English Constitution by W. Bagehot; Guizot's Lectures on Representative Government; R. Gneist's Self-Government in England, 3d Edition, Berlin, 1871; Gneist's Geschichte und heutige Gestalt der Aemter und des Verwaltungsrechts in England, 2d Edition, Berlin, 1866; Gneist's History of the English Constitution, translated by P. A. Ashworth, London, 1886; and Blackstone's Commentaries, Book IV., of Public Rights.

A Course of twenty Lectures on the History and Constitution of the United States of America will begin on 16th October, at 5 P.M. (Mondays, Wednesdays, and Fridays), provided a sufficient number of Students present themselves. (Fee, One Guinea; University Entrance Fee for Non-matriculated Students, 5s.)

VI. MEDICAL JURISPRUDENCE.

PROFESSOR SIR DOUGLAS MACLAGAN.

For Synopsis of this Course, *see* under Faculty of Medicine, No. XI.

VII. COMMERCIAL AND POLITICAL ECONOMY AND MERCANTILE LAW.

For Synopsis of this Course, *see* under Faculty of Arts, No. XV.

LECTURESHIP ON PROCEDURE, CIVIL AND CRIMINAL.

LECTURER—JOHN P. COLDSTREAM, W.S.

This course will embrace an enumeration of the various Courts having jurisdiction in Scotland, with the nature of their respective jurisdictions, the actions applicable to each, and the details of the procedure in carrying on the suits, whether civil or criminal.

Text-Books.—Mackay's "Practice of the Court of Session;" Coldstream's "Procedure in the Court of Session;" Dove Wilson's "Sheriff-Court Practice in Civil Causes;" Macdonald's "Criminal Law;" Macdonald's "Criminal Procedure (Scotland) Act, 1887."

There is a Practical Class or Laboratory attached to the Class, which meets once a week for two hours, and in which the Student under instruction prepares the writs and pleadings proper to the action raised.

Class Prize Lists.

1890-91.

I.—PUBLIC LAW.

PRIZEMEN.—1. A. F. Smith; 2. W. G. Wedderspoon and W. J. Robertson—equal.

HONOURS.—3. R. M. Williamson and J. B. Young—equal; 4. A. Burgess; 5. H. W. Gibson, T. J. Millar, and Thomas Trotter—equal; 6. R. J. Cunningham, W. D. Macdougall, and T. S. H. Burns—equal; 7. F. J. Thomson; 8. Maxwell Fleming and G. Narukawa, LL.B.—equal; 9. C. R. Gillies-Smith; 10. H. G. H. Sprott and W. D. Munro—equal.

SPECIAL PRIZE IN THE LATE PROFESSOR LORIMER'S "INSTITUTES OF LAW."

PRIZEMEN.—1. W. D. Munro; 2. R. M. Williamson and J. B. Young—equal.

HONOURABLY MENTIONED.—3. A. F. Smith and W. G. Wedderspoon—equal; 4. W. J. Robertson and T. S. H. Burns—equal; 5. R. J. Cunningham and A. Burgess—equal; 6. Maxwell Fleming; 7. T. J. Millar and Thomas Trotter—equal; 8. W. D. Macdougall.

L. J. GRANT, BART., B.A., *Professor.*

II.—CIVIL LAW.

WINTER AND SUMMER SESSIONS, 1889-90.

1. Alexander J. Raeburn, M.A.; 2 A. Blairford Smith, M.A.; 3. John Nicoll, M.A. (*Prizemen*); 4. J. M. Davidson, M.A.; 5. James Ballantine, M.A., and Robert Munro, M.A.—equal; 7. D.

B. Bogle, M.A., and Percy H. Pritchard—equal; 9. William Roughead; 10. James Rose, M.A.; 11. Laurence C. Colquhoun.

HENRY GOUDY, LL.B., *Professor.*

III.—SCOTS LAW.

Summer Session, 1890.

1. James M'Robie, Banffshire; 2. John Edwards, Forfarshire; 3. David L. Forbes, Perthshire; 4. George B. Ross, Aberdeenshire (*Prizemen*); 5. Malcolm Green, Caithness; 6. A. J. M'Kenzie, Morayshire; 7. D. H. Thomson, Mid-Lothian; 8. J. S. Christie, Forfarshire; 9. William Forsyth, Morayshire; 10. Frank Chalmers, Fife, and Thomas M'Kelvie, Argyll—equal; 12. J. B. Cooper, Mid-Lothian; 13. James Bee, Mid-Lothian; 14. Alexander J. Jack; 15. G. A. Cumming, Morayshire; 16. J. M. Henry, Forfarshire; 17. John Robertson, Forfarshire; 18. J. L. Stevenson, Forfarshire; 19. D. G. Wilson, Kinross-shire; 20. Andrew M'Laren, Stirlingshire; 21. Swanston Drysdale, Perthshire.

Essay.—1. William Brown, Mid-Lothian; 2. J. Taylor Cameron, Aberdeenshire.

Winter Session, 1890-91.

1. James Blacklock, Dumfriesshire; 2. Evan J. Cuthbertson, Mid-Lothian; 3. John Shirley, Mid-Lothian; 4. A. Blairford Smith, Forfarshire; 5. David Marshall, Forfarshire; 6. C. Outram Morris, Ross-shire; 7. James W. Lowson, Forfarshire; 8. James Hyslop, Kirkcudbrightshire; 9. C. D. Robson, Forfarshire (*Prizemen*); 10. J. O. Hood, Forfarshire; 11. James Hastie, Lanarkshire; 12. John M. Davidson, Lanarkshire, 13. David Samson, Forfarshire; 14. Clement William Duncan, Banffshire; 15. David Sturrock, Fifeshire; 16. Andrew Grierson, Selkirkshire; 17. William D. Robertson, Mid-Lothian; 18. John Proudfoot, Dumfriesshire; 19. Thomas Aitken, Morayshire; 20. James Archibald, Banffshire, and Thomas Morrison, Fifeshire—equal; 22. R. S. Glover, Kirkcudbrightshire; 23. Thomas Wilson, Berwickshire; 24. James Monro, Aberdeenshire; 25. A. C. Anderson, Forfarshire; 26. George W. Kerr, Lanarkshire.

JOHN RANKINE, M.A., *Professor*

IV.—CONVEYANCING.

First-Class Honours.—1. John M'Nay, Dumfriesshire, and James M'Robie, Banffshire—equal; 3. James Falconer Fairweather, Forfarshire; 4. John Edward, Forfarshire; 5. George Morgan, Perthshire (*Prizemen*); 6. Arthur H. M'Lean, Lanarkshire; 7. Swanston Drysdale, Perthshire.

Second-Class Honours.—8. James Grant, Banffshire; 9. John

Stewart, Nairnshire; 10. James Garson, Orkney; Andrew M'Laren, Stirlingshire; and John B. Ritchie, Dumfriesshire — equal; 13. Francis Chalmers, Fifeshire, and Henry Snadden, Fifeshire—equal; 15. Alexander Brook, East Lothian; 16. James Stewart Mowat, East Lothian; 17. Rutherford Fortune, Banffshire, and Douglas Wilson, Dumfriesshire—equal; 19. John S. Christie, Forfarshire, and James D. Sharp, Perthshire—equal; 21. James Bee, Mid-Lothian, and John W. M. Wallace, Leith—equal; 23. Hugh Graham, Fifeshire; 24. David L. Forbes, Perthshire, and John Mitchell Hendry, Forfarshire—equal; 26. Erskine D. Jameson, Morayshire, and Alexander Lees Roxburgh, Ayrshire—equal; 28. William Forsyth, Inverness-shire; 29. Thomas B. Morison, Mid-Lothian; 30. Charles Scott Dowell, Forfarshire; 31. William Mackay, Ayrshire; 32. Robert Grieg Scott, Glasgow; 33. James P. Guthrie, Fifeshire; 34. John Edward Claxton, Mid-Lothian.

JAMES S. FRASER-TYTLER, LL.D., *Professor.*

V.—CONSTITUTIONAL LAW AND HISTORY.

SUMMER SESSION, 1890.

1. Robert Munro, M.A., John B. Young, M.A.—equal (*First Prizemen*); 3. James Hastie (*Third Prizeman*); 4. T. C. Wade (*second year*); 5. John M. Davidson, M.A., and C. R. Gillies-Smith—equal.

ESSAYS.—1. T. C. Wade, M.A. (*Prizeman*); 2. R. Munro, M.A.; 3. T. B. Morrison, M.A.; 4. C. R. Gillies-Smith.

JOHN KIRKPATRICK, LL.D., *Professor.*

VI.—MEDICAL JURISPRUDENCE.

SECOND-CLASS HONOURS.—1. Wm. Ingram; 2. James Wright Forbes; 3. Henry Wm. Gibson, M.A.; 4. Alex. Brown; 5. Thomas J. Millar.

The following gentlemen were unavoidably absent from the Second Examination, but obtained at the First Examination:—J. L. Stevenson, 75 per cent.; Chas. W. Bruce, 66 per cent.; Andrew Brown, 56 per cent.

DOUGLAS MACLAGAN, KT., M.D., LL.D., *Professor.*

VII.—COMMERCIAL AND POLITICAL ECONOMY AND MERCANTILE LAW.

PRIZES AND FIRST-CLASS CERTIFICATES.—1. R. Moir Williamson, M.A., Aberdeen (*Medal and Merchant Company's Prize of £10, 10s.*); 2. John Davidson, Edinburgh (*George Watson's Prize*); 3. J. Robertson Christie, M.A., LL.B., Pollokshields (*Daniel Stewart's Prize*); 4. R. C. Malcolm, M.A., Inverness-shire; 5. W. T. Watson, M.A., Mid-Lothian; 6. A. B. Clark,

M.A., Peeblesshire; 7. J. G. Honeyman, Coupar-Angus; 8. A. M. Laughton, Orkney; 9. R. Macdougald, B.L., Edinburgh; 10. J. Taylor Cameron, M.A., Edinburgh; 11. Francis Brown, M.A., B.D., Ayrshire.

John Linton, Newhaven (*Special Prize*), absent through illness from final examination; J. S. Soutar, Edinburgh (highly distinguished), do.

Essays.—1. Richard Barker, Edinburgh (*Prize*); 2. J. Roberton Christie, M.A., LL.B., and John Davidson—equal; 4. J. G. Honeyman.

J. SHIELD NICHOLSON, D.Sc., *Professor.*

VIII.—CIVIL AND CRIMINAL PROCEDURE.

Prizemen and First Class Honours.—1. John Proudfoot, Dumfriesshire; 2. Alexander N. M'Dougal, Berwickshire.

Second-Class Honours.—3. John M. Davidson, Lanarkshire.

JOHN P. COLDSTREAM, W.S., *Lecturer.*

Graduation in Law.

DEGREES OF BACHELOR OF LAWS (LL.B.) AND BACHELOR OF LAW (B.L.).

Two Degrees in Law are conferred upon Examination in the University of Edinburgh, viz., Bachelor of Law (B.L.) and Bachelor of Laws (LL.B.).

Either of these Degrees admits to the Profession of Law Agent, provided an Examination in the Practice of the Courts is passed to the satisfaction of the Examiners under the Law Agents Act.

The Degree of LL.B. admits to the Profession of Advocate without further examination.

Either Degree qualifies for admission to the General Council of the University.

Candidates for the Degree of LL.B. must be graduates in Arts of a Scottish, English, or Irish University, or of some other University approved of by the Senatus and the University Court.

Candidates for the Degree of B.L. need not be graduates in Arts; but, if not, they must have attended one or more Arts classes during one academical year in a British, Irish, or other recognised University, and must pass a Preliminary Examination in general knowledge according to the Regulations after stated.

Candidates with the necessary qualifications for either Degree, may present themselves for Examination in any number, not less than two, of the subjects prescribed, and they may present themselves on one or

more subsequent occasions for examination in the remaining subjects; but on each occasion they must pass in two subjects at least. Two Law Graduation Examinations are held annually, the first beginning on the first Monday in July, and the second on the last Monday in October.

Candidates must enter their names and addresses at the office of the Clerk of Senatus, exhibit the necessary certificates, and pay the required fee, at least one week before the first day of the Examination.[1]

The Degree of Bachelor of Laws was instituted by an Ordinance of the Universities' Commissioners, dated 12th July 1862. The Degree of Bachelor of Law (B.L.), was instituted by the University, and approved by Her Majesty by Order in Council, dated 6th August 1874.

The rules of the Ordinance, as amended by an Order in Council of 11th August 1884, are—

I. No one shall hereafter be admitted as a candidate for the Degree of Bachelor of Laws (LL.B.) . . . unless he be a Graduate in Arts of one of the Universities of Scotland, or of England or Ireland, or a Graduate in Arts of a colonial[2] or foreign University, whose Degree may, for this purpose, have been specially recognised by the University Court.

II. The Course of Study in Law necessary for the Degree of Bachelor of Laws shall extend over three Academical years, and shall include attendance on a Distinct Course in each of the six following Departments, viz.:—

1. CIVIL LAW.....	During Courses of not less than Eighty Lectures each.
2. LAW OF SCOTLAND.....	
3. CONVEYANCING, or, in the option of the Candidate, POLITICAL ECONOMY[3]	
4. PUBLIC LAW	During Courses of not less than Forty Lectures each.
5. CONSTITUTIONAL LAW and HISTORY	
6. MEDICAL JURISPRUDENCE[4]	

III. No one shall hereafter be admitted to Examination as a candidate for the Degree of Bachelor of Laws, until he has completed the course of study above prescribed; and no one shall be admitted

[1] When names are not entered, and fees paid, on or before the stated dates, a late-entry fee of ten shillings must be paid before the candidate can be admitted to examination. A candidate is not held to be entered for the examination until his name is entered, the fee paid, and all the necessary certificates, &c., lodged.

[2] The following Degrees have been recognised in terms of this Section: B.A. of New Zealand University; B.A. of Cape of Good Hope University; B.A. of Dalhousie University, Halifax, Nova Scotia.

[3] This option, initiated by the Faculty of Law, was approved by Her Majesty by Order in Council on 11th August 1884. Conveyancing, however, continues to be compulsory, both as to attendance and examination, for candidates who desire their LL.B. degree to qualify them for the profession of a law-agent; and it continues compulsory as to attendance for candidates for the Bar.

[4] For names of authorised extra-academical lecturers, *see* page 376.

as a candidate in any University unless two at least of the three Academical years of his course of study in Law shall have been in such University.

IV. Candidates for the Degree of Bachelor of Laws shall be examined, both in writing and *vivâ voce*, on each of the six Departments of Law above specified.

V. Each candidate must satisfy the Examiners that he possesses a competent knowledge of Law in each of the said Departments; and the Examiners shall further, in judging of the qualifications of candidates, have special regard to their acquirements in the two Departments of Public Law and Constitutional Law and History.

* * * * * * * *

IX. Each candidate for the Degree of Bachelor of Laws shall pay a Fee of Five Guineas in respect of his Examination for the Degree.[1]

The Rules of the Order in Council of 6th August 1874 sanctioning the Degree of B.L., are as follows:—

XII. No one shall be admitted to Examination as a Candidate for the Degree of Bachelor of Law in the University of Edinburgh, unless he be a Graduate in Arts, qualified as prescribed in Section I. (of the Regulations for LL.B.), or unless he shall have studied in one of the Universities therein mentioned, during at least one Academical year, one or more of the subjects included in the course of Study in the Faculty of Arts, and shall have passed a satisfactory Examination in (1.) Latin, (2.) Greek, French, or German, and (3.) any two of the following subjects—namely, Logic, Moral Philosophy, and Mathematics. The Examinations shall be conducted by Examiners in Arts, together with some of the Law Examiners.[2]

XIII. The course of study in Law necessary for the Degree of Bachelor of Law in the University of Edinburgh shall extend over at least two Academical years, and shall include attendance on a distinct course, as specified in Section II. (of the Regulations for LL.B.), in each of the first three of the Departments therein mentioned,[3] and in any one of the other three Departments; and no one shall be admitted to Examination as a Candidate for the said Degree, unless two Academical years of his course of Study in Law shall have been in the University of Edinburgh.

XIV. The Examination for the said Degree of Bachelor of Law in

---

[1] If the Examination is taken in two or more parts, the fee for the first is £3, 3s., and for the second, £2, 2s., no fee being payable in respect of any Examination after the second.—Every Candidate for a Degree in Law must matriculate at the University for the year in which he appears for Examination or for Graduation. He must enter his name for graduation, and if not already a member of the General Council, must also pay the fee of £1 for Registration at least two clear days before the date of graduation.

[2] Candidates must pass in these subjects at the Ordinary Examinations for the Degree of M.A. in April and October (*see* REGULATIONS FOR GRADUATION IN ARTS).

[3] Viz., Civil Law, Scots Law, and Conveyancing: the option of Political Economy not applying to the B.L. degree.

the University of Edinburgh shall be conducted at the same time, and in the same manner, as that for the Degree of Bachelor of Laws, and the Candidates shall be examined in each of the Departments of Law on which they shall have given attendance, as above required.

* * * * * * * *

XVI. The Fee to be paid by each Candidate for the Degree of Bachelor of Law in the University of Edinburgh shall be the same as is provided by Section IX., with reference to Examinations for the Degree of Bachelor of Laws.[1]

SUBJECTS OF EXAMINATION.

Preliminary Examination for Degree of B.L.

The following Books are prescribed for French and German :—

French.—*Montesquieu's* Esprit des Lois, Books xi. to xiii. *Voltaire's* Charles XII. *Molière's* L'Avare. *Victor Hugo:* First Division of Selections ('Poésie') contained in L'Œuvre Complète de Victor Hugo (Extraits); Paris, Hetzel-Quantin, 1885. Some knowledge of the matter of the books prescribed as well as of their text is required. A passage from a work not prescribed may also be set. Moderate proficiency in French prose composition is required. Questions on French Grammar, Philology, and History will also be set. For these subjects reference may be made to *Saintsbury's* Primer of French Literature, to *Brachet's* Historical French Grammar, or *Clapin's* Primer of French Philology, and to *Charlotte Yonge's* Primer of French History.

German.—*Von Jhering*, Der Kampf um's Recht. *Lessing*, Minna von Barnhelm. *Goethe*, Hermann und Dorothea, Cantos I. and II. *Schiller*, Die Glocke. *E. J. A. Hoffmann*, Meister Martin (Lange's German Classics). Translation, composition, and some grammatical and historical knowledge will be required, as in French. Reference may be made to *Ravensberg's* German Grammar, *Selss's* Outline of the Literature of Germany, and *Sime's* History of Germany (Macmillan's Hist. Course for Schools).

Law Examination (for Degrees of B.L. and LL.B.).

In Public Law the subjects will be *Natural Law* and *International Law*, Public and Private. The books recommended for study are mentioned in the Synopsis of the Professor's Lectures in the Calendar.

In Civil Law the examination for both degrees will be on the History of the Law of Rome, and on its Principles as explained in the Institutes of Gaius and Justinian. Candidates for LL.B. will also be examined on Book xviii., tit. 1, and Book xlv., tit. 1, of the Digest. The works of Professor Muirhead are recommended to candidates.

[1] For Preliminary Examination in Arts, £1, 1s.; for First Examination in Law, £2, 2s.; for Second Examination in Law, £2, 2s. No fee is payable in respect of any Examination after the Second Examination in Law.

In CONSTITUTIONAL LAW AND HISTORY the subjects will be—(1) The Constitutional History of England from the Union of the Crowns to the first Reform Act. (2) The Constitution, Powers, and Privileges of Parliament from 1295 to 1885.

In the LAW OF SCOTLAND the subject will be the Municipal Civil Law. The works of Mr Erskine and Mr G. J. Bell in the latest editions are recommended to candidates.

In CONVEYANCING the subject of Examination will be the Constitution of Heritable Rights, irredeemable and redeemable, and their Transmission *inter vivos* and *mortis causâ*.

In MEDICAL JURISPRUDENCE the subjects will be—(1) Corrosive Poisons; (2) Wounds; (3) Infanticide; (4) Death from Electricity; (5) Homicidal Mania.

In POLITICAL ECONOMY[1] the Examination will be on the subjects treated of in Mr J. S. Mill's "Principles of Political Economy." Candidates will also be expected to show some knowledge of the works of the recent writers mentioned in the Synopsis of the Professor's Lectures.

DATES OF EXAMINATIONS.

PRELIMINARY EXAMINATION FOR B.L. (1891-92).

13th October and 4th April—Latin, 9 and 11.30.

14th October and 5th April—Greek, French, and German, 11.30 and 2.30.

15th October and 6th April—Logic, 9.

16th October and 7th April—Moral Philosophy, 9.

13th October—Mathematics, 2.30; 14th October, 9; 4th April, 3; and 5th April, 9.

Names to be given in, and fees paid, on or before 15th October and 18th March, for the Examinations in October and March respectively.

LAW EXAMINATIONS (1891).

6th July and 26th October—Scots Law, 10; Constitutional Law and History, 3.

7th July and 27th October—Civil Law, 10; Constitutional Law and History, 3.

8th July and 28th October—Conveyancing, 10; Political Economy, 10; Medical Jurisprudence, 3.

9th July and 29th October—Public Law, 10.

Oral Examinations on 13th July and 2nd November.

Names to be given in, certificates shown, and fees paid, on or before 29th June and 19th October, for the Examinations in July and October respectively.

---

[1] Optional instead of Conveyancing; but see *supra*, footnotes, pp. 298, 299.

Examination Papers for Degrees in Law.

B.L. PRELIMINARY EXAMINATION.

FRENCH.

Wednesday, 15th October 1890.

FIRST PAPER.—11.30 *to* 1.30 *o'clock.*

(*Only three of the four passages to be taken up.*)

I. Translate into English :—

Montesquieu, *L'Esprit des Lois*, v. 8, *from* "Si dans l'aristocratie le peuple est vertueux," *to* "il oublie sa faiblesse."

1. Give feminine of *vertueux*, *leurs*. What is the rule regarding the formation of the feminine of adjectives in *eur?*
2. Third plural present, past definite (preterite), and imperfect subjunctive of *deviendra*, *ait*.
3. Third singular past definite, future, imperfect subjunctive of *faut*, *appelle*, *tient*.
4. Third singular present, past definite, future, present and imperfect subjunctive of *peuvent*, *font*, *confondent*.

II. *Charles XII.*, book iii., *from* "Le roi Auguste, bien aise de punir l'évêque de Posnanie," *to* "tous tremblaient au seul nom du roi de Suède."

1. Third singular and plural present, past definite and future of *plaire*.
2. Third plural present, future, present and imperfect subjunctive of *remit*, *mourut*, *rendit*.
3. Third singular and plural past definite, future, imperfect subjunctive of *vu*, *vaincre*.
4. (*en Saxe*). State some of the cases in which "in" is not translated by *en*, with names of countries.
5. Give rule by which *cent* here takes the sign of the plural, and state what other number follows the same rule.

III. Molière, *L'Avare*, iii. 3, *from* "*Harpagon.* Il faut nettoyer mon carrosse," *to* "ils ne peuvent se traîner eux-mêmes."

1. (*tout prêts*). Why not *tous*? State the case in which *tout* takes the signs of feminine and plural when used adverbially.
2. (*vous leur faites*). Give singular of *leur*.

3. Third singular and plural present, imperfect, past definite of *vaudrait*, *manger*.
4. Give plural of *travail*, *monsieur*.
5. Give (*a*) singular, (*b*) feminine of *eux-mêmes*.

IV. Victor Hugo, *Extraits—La Conscience*, *from* "Lorsque avec ses enfants vêtus de peaux de bêtes," *to* "Et se remit à fuir sinistre dans l'espace."

1. Give second singular and plural past indefinite (perfect), masculine and feminine of *couchons-nous*: (*a*) interrogatively, (*b*) negatively; also second singular and plural imperative, (*a*) positively, (*b*) negatively.
2. Give singular of *cieux*, and plural of *œil*.
3. Give feminine of *tout grand*, with reason for your treatment of *tout*.
4. Give etymology of *avec*, *devant*, *arriver*, *soir*, *œil*, *faire*, *tête*.

SECOND PAPER.—2.30 *to* 4.30 *o'clock*.

1. Translate into French:—

The Russians now, for the first time, conquered the Swedes in a pitched (*rangé*) battle. This victory which Augustus gained, almost against his will, was complete. In the midst of his bad fortune he entered triumphant into Warsaw, formerly his flourishing capital, but then a ruined town, ready to receive any conqueror, and to acknowledge the strongest as king. He was tempted to take this moment of good fortune, in order to go and attack the king of Sweden in Saxony with the Muscovite army; but when he reflected that Charles XII. was at the head of a Swedish army, hitherto invincible, he thought it advisable (*à propos*) to accept the terms which the king of Sweden should impose. These terms became still more hard when Charles heard that Augustus had attacked his troops during the negotiations. His resentment, and the pleasure of further humbling an enemy who had just vanquished his forces, made him inflexible upon all the articles of the treaty. Thus the victory of Augustus served only to render his situation the more miserable; a thing which, perhaps, never happened to anyone but himself.

II. 1. Mention some of the principal events during the reign of Henri IV.
2. State when and under what circumstances Alsace and Savoy became French.
3. Write short notes on any three of the following writers:—Racine, Chateaubriand, Rousseau, Boileau, Madame de Staël, Balzac.

7th April 1891.—11.30 *to* 1.30 *o'clock.*

FIRST PAPER.

Translate into English, and answer the questions on any three of the following passages:—

I. Montesquieu, *L'Esprit des lois*, iv. 3; *from* "Comme l'éducation' . . . *to* "pour faire un bon esclave."

1. (*élever—faut—obéit*). Give 3rd singular imperfect, past definite, past indefinite, future, present and imperfect subjunctive.
2. (*eue*). Account for the form of this participle.
3. (*sans être*). Is the infinitive always used after prepositions in this way?
4. (*vouloir—vivre—mettre*). 3rd plural present, past definite, past indefinite, future, imperfect subjunctive.
5. State rule as to the formation of adverbs, with some exceptions.
6. (*croire—commencer—faire*). 1st and 3rd plural present, past definite, future, present subjunctive.

II. Voltaire, *Histoire de Charles XII.*, chap. ii., *from* "Tout cela s'était fait à la vue de la flotte danoise," *to* "à faire observer cette loi."

1. (*tout—au roi*). Give plural of these.
2. (*devant lui—on lui apporta*). What would be the plural of *lui* in these two connections?
3. (*cent mille*). In what cases do *cent* and *mille* take the sign of the plural?
4. (*reçut—promit—s'attendait*). 3rd plural present, imperfect, past definite, past indefinite, future.
5. (*daignassent—ceux—apportèrent*). Give the singular of these.
6. (*peu*). Give comparative and superlative of this, as also of *bien* and *mal*.
7. (*aller—parvint*). Give 3rd singular and 3rd plural present, past definite and future.

III. Molière, *L'Avare*, v. 5, *from* "Mariane. Oui, mon cœur s'est ému," *to* "à ceux de votre père."

1. (*ému—ouvert—allez—entretenu*). 3rd singular and 3rd plural present, past definite, future.
2. (*recueillirent—pouvoir—alla*). 1st singular and 1st plural present, past definite, past indefinite, future.
3. (*débris—vaisseau—tout notre bien*). Give plural of these.
4. (*qu'on avait déchirée*). Account for the form of the participle.
5. (*fuyant—vint—vécu*). 3rd plural present, past definite, past indefinite, future, imperfect subjunctive.

6. (*vécu*). Why not *vécue?*
7. (*ciel*). Give the plural.
8. (*appartient*). Give 3rd singular and plural of the pluperfect in the negative-interrogative form.
9. (*embrassez-moi*). Put this negatively,

IV. Victor Hugo, *Extraits*, p. 121, *from* "Quand ce roi dut mourir," *to* "tu ne serais plus membre."

1. Distinguish between *quand* and *quant;* between *devant* and *avant.*
2. (*voile*). What two different meanings has this word, and how are they distinguished?
3. Distinguish between *ressembler* and *rassembler*, *paraît* and *parait.*
4. Distinguish between *côté*, *côte*, *coteau.*
5. Give plural of *quelque jour*, and *cette même chambre.*
6. (*une cour dont*). What could you substitute for *dont* here?

7th April 1891.—2.30 *to* 4.30 *o'clock.*

SECOND PAPER.

I. Translate into French :—

Having been unable to bring up his artillery to Thorn, Charles was obliged to wait till some cannon came to him by sea from Sweden. Meanwhile he took up his quarters at (the distance of) a few miles from the city. In order to reconnoitre it, he often approached too near the ramparts. The plain dress which he used to wear in these dangerous excursions was of greater service to him than he ever imagined, as it prevented his being observed and marked out by the enemy who would not have failed to fire upon him. One day, he had advanced too far with one of his generals, called Lieven, who was dressed in a blue coat trimmed with gold ; and fearing lest the general might be too conspicuous, he ordered him to walk behind him. Lieven, perceiving too late his error, in having put on a remarkable dress which endangered all those who were near him, and fearing especially for the king's life, hesitated for a moment whether he should obey. The king, however, takes him by the arm, puts himself before him, and covers him with his own body. At the same moment a cannon-shot ball, taking them in flank, struck the general dead upon the very spot which the king had hardly quitted.

II. State what you know about any four of the following names and events :—Mary of Brabant, Maurice of Saxony, Choiseul, Coligny, Mirabeau, the Albigenses, the Massacre of St. Bartholomew, the Battle of Leipzig.

III. Give the etymology of any ten of the following words :—*comment, davantage, moins, tandis, jamais, savoir, oie, œuf, chez, jouir, chef, mais, feu, puis, malgré, encore, sembler, blâmer.*

EXAMINATION PAPERS FOR LL.B. AND B.L.

SCOTS LAW.

Monday, 7th July 1890.—10 *to* 2 *o'clock.*

(*Three Questions only out of each Group to be answered.*)

I.

1. Explain and illustrate from Scots law the maxims—
   (*a*) Tutor datur personae, curator rei.
   (*b*) Ignorantia juris neminem excusat.
2. Give the rules of intestate succession in heritage and movables respectively.
3. In what circumstances, and with what effect, can a married woman incur a personal obligation?
4. What is a corporation? How may it be constituted? What are its privileges?

II.

1. What is the liability of an innkeeper (1) under the edict, and (2) by statute? Is robbery or accidental fire an answer to the claim under the edict?
2. What are the objects of noting and protesting a bill? Describe the procedure.
3. What were the old, and what are the present, rules regarding warranty in sale of specific goods? What is the remedy in case of breach?
4. Explain the law of constructive total loss in marine insurance.

III.

1. What are the rights and liabilities *inter se* of the several owners of a flatted house?
2. In what cases is the tenant's part of a lease capable of being (*a*) assigned and (*b*) bequeathed?
3. Explain and illustrate the law of constructive trust.
4. What is copyright; and what rights has an author in regard to his work before publication?

IV.

1. What is the doctrine of Approbate and Reprobate? Give an illustration.
2. How is Notour Bankruptcy constituted in the case of individuals? What is its effect?
3. Explain the scope and operation of the triennial prescription.
4. In the sense of the poor-law, what is a residential settlement; and how is it (*a*) acquired and (*b*) lost?

CONSTITUTIONAL LAW AND HISTORY.

First Paper.

Monday, 7th July 1890.—3 *to* 5 *o'clock.*

(*Six Questions only to be answered.*)

1 *Temp.* James I. (*a*) "The fountain-head of justice was poisoned." (*b*) "Impeachments were revived." Explain, illustrate, and discuss these statements.

2. State shortly the case of the "Five Knights" (1627), and explain the chief points involved. To what legislation did it give rise? Did the king assent to that legislation in the usual way?

3. Name and explain the most salutary Acts of Parliament passed in 1641.

4. What acts did the "Pensionary Parliament" of Charles II. pass (*a*) against Puritans, and (*b*) against Roman Catholics? Explain the change of policy which they exhibit.

5. (*a*) State and illustrate the leading doctrines of the Stuarts. (*b*) State the chief principles of the Revolution.

6. Sketch the history of Religious Toleration from 1689 to 1829.

7. "The Cabinet System takes definite shape under the first two Georges." Explain this, and state how the system fared under George III.

8. (*a*) Trace in outline the political history of the American Revolution (1765-76). (*b*) Explain briefly the nature of the constitution of the U. S. A.

9. Sketch the history and doctrines of the two chief political parties from the time of Charles II. down to the "Manchester Massacre" (1819).

10. Trace the political career of any two of the following statesmen :—Walpole, Chatham, Pitt, Fox, Burke, Canning.

Second Paper.

Tuesday, 8th July 1890.—3 *to* 5 *o'clock.*

(*Six Questions only to be answered.*)

1. Describe and comment upon the constitution and the powers of Parliament in 1295.

2. "The powers and privileges of Parliament were in their zenith under Henry IV." Explain, illustrate, and discuss this statement. What are the chief powers and privileges of Parliament at the present day?

3. Name and explain the chief election statutes passed in 1406-1445.

4. Adduce evidence from the reigns of Henry VIII. and Elizabeth

indicating that the powers and privileges of Parliament were not extinct.

5. What powers of Parliament were vindicated in the reign of James I., and what privileges were violated in that of Charles I.?

6. The Triennial Act was passed in 1694. State its object. Sketch the previous and the subsequent history of the subject.

7. Sketch the legislation as to placemen in Parliament. How far is it desirable to include or exclude them?

8. State and explain briefly any three of the following cases:—Haxey, Strode, Ferrers, Strickland, Eliot, Aylesbury Men, Wilkes, Stockdale.

9. Define the 'Representative System.' What were its defects before the Reform Act of 1832, and how far were they remedied by that Act?

10. Sketch the procedure by which a Bill is passed into an Act, and mention the vicissitudes to which it is exposed.

ROMAN LAW.

Tuesday, 8th July 1890.—10 *to* 2 *o'clock.*

N.B.—*Candidates for LL.B., or for B.L. on the LL.B. standard, must answer all the questions in Group I., and three in each of the other Groups.*

Candidates for B.L. not aiming at the LL.B. standard must answer two of the questions in Group I., and three in each of Groups II., III., and IV., but need not answer any in Group V.

First Group.

1. Give some account of the history and character of the Twelve Tables.

2. What were the—

Pauli Receptae Sententiae?

Edict of Theodoric?

Lex Romana Burgundionum?

3. What were the points of difference between a law of the *Comitia Tributa* and a *Plebiscitum?*

4. What constitutional changes were made by the *Lex Canuleia*, the Licinian Rogations, and the *Lex Hortensia?*

5. Give some account of Papinian, Paul, and Ulpian. What was the Valentinian "Law of Citations"?

Second Group.

6. How might *patria potestas* be created, and how dissolved?

7. Who were *agnati?* How were agnation and cognation extinguished? What was the change that Justinian made in the law of adoption?

8. Describe the modifications introduced from time to time in the tutory of women.

9. What were the points of difference between rural and urban servitudes?

Third Group.

10. Give a short account of the *litterarum obligatio.*

11. In what different ways might an obligation be dissolved?

12. What is the history and character of the military testament?

13. What were the Orphitian and Tertullian Senatus-consults?

14. Give an account of the following laws—

Aelia Sentia, Junia Norbana, Falcidia, and Furia Testamentaria.

Fourth Group.

15. What were the elements of the *status* of a Roman citizen? Show how these were severally affected by *capitis deminutio.*

16. To what class of actions did the *actio Publiciana* belong? and what was its character?

17. What were the general provisions of the Lex Aquilia with regard to delicts?

18. What was the difference between *judicia bonae fidei*, and *stricti juris?* What contracts gave rise to *judicia bonae fidei?*

Fifth Group.

19. Translate any three of the following passages, and make such comments as are appropriate. If *d* be translated, answer also the query and give your reasons.

(*a*) "In eos extra ordinem animadvertitur, qui probentur numis datis tutelam occupasse, vel pretio accepto operam dedisse, ut non idoneus tutor daretur, vel consulto in edendo patrimonio quantitatem minuerit, vel evidenti fraude pupillorum bona alienasset." (D. xxvi., i., *fr.* 9.)

(*b*) "Et si semel ad testamentarium devoluta fuerit tutela, deinde excusatus sit tutor testamentarius, adhuc dicimus, in locum excusati dandum, non ad legitimum tutorem redire tutelam. Idem dicimus, et si fuerit remotus, nam et hic idcirco abit, ut alius detur." (D. xxvi., ii., *fr.* 11, §§ 1, 2.)

(*c*) "Si hominem emisti, ut, si aliqua conditio extitisset, inemtus fieret, et is tibi traditus est, et postea conditio emtionem resolvit, tempus, quo apud emtorem fuit, accedere venditori debere existimo, quoniam eo genere retroacta venditio esset redhibitioni similis; in qua non dubito tempus ejus, qui redhibuerit, venditori accessurum, quoniam ea venditio proprie dici non potest." (D. xli., iii., *fr.* 19.)

(*d*) "Titia, quae ex alio filium habebat, in matrimonium coit Caio Scio habenti filiam; et tempore matrimonii consenserunt, ut filia Caii Seii filio Titiae desponderetur; et interpositum est instrumentum et adjecta poena, si quis eorum nuptiis impedimento fuisset; postea Caius Seius constante matrimonio diem suum obiit, et filia ejus noluit nubere; quaero an Caii Seii heredes teneantur ex stipulatione?" (D. xlv., i., *fr.* 134, *pr.*)

CONVEYANCING.

Wednesday, 9th July 1890.—10 *to* 2 *o'clock.*

Twelve questions only, including 10, 11, 12, 14, *and* 15, *to be answered.*

1. State the effect, if any, on the validity of a notarial docquet to a testamentary writing—
   (*a*) Of an omission to set forth the mandate.
   (*b*) Of an omission to set forth the reading of the deed.
   (*c*) Of an omission to set forth the touching of the pen.
2. What is the object of interdiction? How is it imposed? What is its effect as against deeds *inter vivos* or *mortis causa*, granted by the person interdicted, with or without the consent of his interdicters, affecting heritable or movable estate?
3. What is the import of the clause "I grant warrandice" in a gratuitous disposition of heritage, and in an assignation of debts respectively? How far will express warrandice prevail over implied?
4. What are the rights of the grantee when the subject of the grant is said to be bounded—
   (*a*) By a river or stream not navigable?
   (*b*) By a navigable river or stream?
   (*c*) By a canal on which there is a towing-path.
   (*d*) By a wall.
5. In the matter of prescription of rights beyond the boundaries, state and illustrate the distinction between a bounding charter with parts and pertinents, and a general or non-bounding charter with or without parts and pertinents.
6. What constitutes a prescriptive title according as the progress starts with an heir, a disponee, or an adjudger?
7. Explain what is meant (1) by the interjection of superiors, and (2) by the multiplication of superiors. State the rule in reference to each, and give the *rationale* of the rule.
8. Name and explain the casualties exigible by the superior in a feu-holding prior to 1874 where the feu right is silent upon the subject, and what means the superior has of enforcing them.
9. Explain the provisions of the Act of 1874 in regard to the redemption of casualties incident to feus granted prior to 1874.
10. A conveyed lands to B by disposition containing all the usual clauses, on which B took infeftment. B died intestate in 1865, whereupon his heir C served heir in general to him, and obtained from the superior a Writ of Resignation, which he duly recorded in the Register of Sasines. C died in 1875, leaving a general disposition and settlement in favour of his wife D, who having expede and recorded a notarial instrument in the lands as carried by the settlement sold to D, who objects to the title. State wherein the title was defective, and the steps by which D could obtain a valid title.

11. A disponed lands to "B and C (strangers) in conjunct fee and liferent, and to the survivor of them and their heirs," and infeftment was taken in these terms. B predeceased C, leaving a general disposition and settlement in favour of D. On C's subsequent decease, D claims one-half of the lands, and D, the heir at law of C, claims the whole. To what extent are the respective claims good? Explain the principle, and state how the title or titles would be completed.

12. A bought the estate of X from B, an entered vassal, the entry being "untaxed." The estate consisted of ordinary farms let on lease, grass-lands let by the season, shootings let and unlet, and minerals; the teinds were valued. State the principle upon which, on the death of B in 1880, the casualty which was demanded would be reckoned, and the date which would be taken for fixing the rental on which it would be computed, according as that preceded or succeeded the term of A's implied entry.

13. Mention the several particulars in regard to the "teinds" with reference to which the agent of an intending purchaser of lands ought to make inquiry, and state the reason for the inquiry applicable to each particular.

14. A, infeft in the lands of X, disponed them in B's contract of marriage with C to "B and C in conjunct fee and liferent and to their heirs," and infeftment was given to "B and C in conjunct fee and liferent." There was no issue of the marriage. B and C having died, the former leaving a general disposition and settlement in favour of O, and the latter a similar settlement in favour of P, O expede a notarial instrument in one-half *pro indiviso* of the lands, and P a notarial instrument in the other half; O and P having then united in selling the whole to Q, he objected to the title as tendered. Wherein was it defective, and by what steps could a valid title be given to Q?

15. What is meant (1) by possessing on double titles, and (2) by "sopiting" titles? Give an example illustrating your reply and showing how sopiting may be done and its effect.

MEDICAL JURISPRUDENCE.

Wednesday, 9th July 1890.—3 *to* 5 *o'clock.*

I.—*Persons found dead.*

1. A person is found dead by the roadside. It is necessary to determine whether or not death may have been due to crime.

What is the duty, as regards the dead body, of

(*a*) The police?

(*b*) Any medical man who may have been called?

2. By what signs may it be determined that death had occurred eight or ten hours previous to discovery of the body?

II.—*Contusions.*

1. With what other appearance on the surface of a dead body may a series of contusions be confounded?
2. What is the difference in the condition of the textures involved, in these two states?
3. How may they be clearly distinguished?

III.—*Rape.*

1. Define the crime of rape.
2. State what requires to be proved to establish the crime, in
   (*a*) A woman aged (say) 19.
   (*b*) A girl aged (say) 12.

IV.—*Poisoning by Mercury.*

1. What is the compound of mercury which most commonly gives rise to acute mercurial poisoning? Give its popular and scientific names.
2. Give some account of its physical properties.
3. State the general characters of the phenomena which a poisonous dose of it produces.

V.—*Criminal Responsibility.*

a. Distinguish between pleas of insanity (1) in bar of trial, and (2) as a defence to the crime alleged. What differences exist in the mode of stating and proving these pleas?

b. "If a person under an insane delusion as to existing facts commits an offence in consequence thereof, is he thereby excused?"

State the answer given to this question by the English Judges in *M'Naughten's* case; mention any criticisms to which it has been exposed, and explain how far it correctly embodies the law of Scotland.

c. Are there any mental states, short of actual insanity, which wholly or partially relieve one who commits an offence from criminal responsibility? If so, name and explain them.

PUBLIC LAW.

Thursday, 10*th July* 1890.—10 *to* 2 *o'clock.*

(*Five questions only, in each group, to be answered.*)

I.—*Natural Law.*

1. Explain the difference between the Positive and Negative Schools of Jurisprudence.
2. Can a valid distinction be drawn between Justice and Charity? Give reasons for your answer.
3. What do you mean by Natural Law? In what other senses has the term been used?

4. "The law of nature was long extant before Moses was born." "All human law is merely declaratory." Show the identity of these two statements.

5. What is the relation between Liberty and Absolute Equality? Explain and criticise the doctrines of Hobbes and Rousseau in regard to the latter.

6. What are the primary and secondary sources of Positive Law?

II.—*Public International Law.*

1. What nations were parties to the Treaties of Westphalia, of Paris (1856), of Vienna, of Berlin, and of Washington (1871); and what were the objects of these Treaties?

2. What is the distinction between simple and composite states? Give examples of each.

3. What is the meaning of Recognition? Illustrate your answer by historical references.

4. What is an Ambassador, a Consul, a Chargé d'Affaires, and a Diplomatic Agent? By whom, and to whom, is an *exequatur* granted?

5. Explain the phrases "right of search," right of seizure," "*droit de renvoi*," "blockade," "contraband of war," "prize," and "*droit d'asile.*"

6. What is the scientific theory of Intervention? When is it justifiable?

7. Explain the doctrine of Exterritoriality.

III.—*Private International Law.*

1. Define Private International Law.

2. What legal relations are governed by the *lex domicilii*, the *lex loci contractus*, the *lex rei sitae*, and the *lex fori* respectively.

3. Give some account of the case of Lolly, and show its bearing on the International law relating to Marriage.

4. Define Domicile and Nationality, and criticise the grounds on which it has been proposed to substitute the latter for the former.

5. How is the domicile of an illegitimate child determined?

6. What is extradition? How does it arise? What are the limits of its application, and why do they exist?

POLITICAL ECONOMY.

Wednesday, 9th July 1890.—10 *to* 2 *o'clock.*

(*Answer twelve questions only.*)

1. Discuss the proposition that industry is limited by capital, and state carefully the meaning you attach to capital.

2. Enumerate the principal causes of the different degrees in the efficiency of labour at different times and places.

3. Give an analysis of Profits, and compare Profits with Rent.
4. Give a critical examination of the Wages Fund Theory.
5. State carefully the law of Supply and Demand, and apply it to the determination of the value of money.
6. Explain the terms nominal and real par of exchange, and show how the precious metals are distributed throughout the world.
7. Examine the incidence of import duties under different circumstances.
8. Give a short account of the origin and principles of the Bank Charter Act, 1844.
9. How does the depreciation of inconvertible notes affect (*a*) the rate of interest in the country issuing them, (*b*) its foreign trade?
10. What are the principal exceptions to *laisser-faire* recognised by Mill or Sidgwick?
11. What are the real limits to a rise in prices through the expansion of credit?
12. Discuss, with illustrations, the application of the Historical Method to Political Economy.
13. Explain the terms Final and Total Utility, and examine the relation they bear to Value.
14. What is meant by "general prices," and how can movements in general prices be measured?
15. Examine critically Mill's views on the special peculiarities of property in land.

Graduates in Law.[1]

DEGREE OF LL.B., 1887-1891.

1887.	1888.
*John James Cook, M.A.	*James Allison, M.A.
James Duff, M.A.	*Andrew Macbeth Anderson, M.A.
*John French, M.A.	Patrick James Blair, M.A.
*William Harvey, B.A.	*James Avon Clyde, M.A.
*Alfred Alexander Murray, M.A.	*Andrew William Donald, M.A.
*William Thomson, M.A.	*David Dougal, M.A.
Andrew Wishart, M.A.	*William Galbraith, M.A.

[1] The names of all the Graduates in Law since the institution of the Degrees to 1888 will be found in List of Graduates of the University, published in 1889, pp. 125-127, and also in previous Calendars.

* Passed with distinction. "Distinction" was instituted in October 1885. Several of the Graduates of 1885-88 passed part of their Examinations before any record of distinction was preserved.

*Peter Fraser Mackenna, M.A.
*Robert Miller, M.A.
*J. C. Dove Wilson, M.A.

1889.

David Anderson, M.A.
Claud Patrick Boswell, M.A.
Archibald Brown Campbell, M.A.
*Andrew Henderson Briggs Constable, M.A.
*Alistair Davidson, M.A.
*Matthew Robin Greenlees, M.A.
James Arthur Hope, M.A.
*William Hunter, M.A.
*Robert Bird Kerr, M.A.
Francis Kinloch, B.A.
*George Fleming Mathers, M.A.
*John Hepburn Millar, M.A.
*Charles David Murray, M.A.
*Coventry Dick Peddie, M.A.
John Ritchie, M.A.
*Hamish Hay Stuart, M.A.
Arthur Moodie Thomas, M.A.
*Alexander Thomson, M.A.

18th April 1890.

*William Scott Currie, M.A.
Alexander David Russell, M.A.

25th July.

Edmund John Gunn, M.A.

1st August.

*Duncan Mearns Abel, M.A.
*James Roberton Christie, M.A., LL.B. (Glasg.).
Neil James Kennedy, B.A.
William James Kippen, B.A.
Lawrence M'Laren, M.A.
John Liddell Officer, M.A.
*William Thomson, M.A.

17th April 1891.

Alexander Gray, M.A.
William Gray, M.A.
*James Mercer Irvine, M.A., B.Sc.
Michael Smith, M.A.

DEGREE OF B.L.

1887.

*David Keith Murray
*George Wilton Wilton

1888.

James Millar Brown
*Hugh Campbell, M.A.
*Alexander Duncan.

18th April 1889.

*Robert Liddell Cockburn.
William Stowell Haldane.
John Lumsden Macpherson, M.A.

1st August 1889.

John Glover
John James Waugh

18th April 1890.

Duncan Cameron

1st August.

Duncan Archibald Maccoll.
Robert Watson.

17th April 1891.

William Alexander Stewart.

DEGREE OF DOCTOR OF LAWS (LL.D.).[1]

The Degree of Doctor of Laws is conferred *honoris causâ tantum*. It was first granted in 1695. Previously to 1751 it had been conferred on seven persons only. Since then more than 400 names, including some of the most distinguished in Europe, have been added to the list. The degree is not conferred in absence except in very special cases.

* Passed with distinction. See note on previous page.

[1] Those to whom the Degree has been offered, if unable to be present at the Graduation Ceremonial immediately ensuing, may present themselves at any subsequent Ceremonial, on giving at least a week's notice.

The following is a list of those upon whom the Degree of Doctor of Laws has been conferred within recent years : —[1]

1887.

Sir Bhagvat Singh, K.C.I.E.
William Dittmar
Edward Dowden
Asa Gray, M.D.
Robert Halliday Gunning, M.D.
Alexander Forbes Irvine
[2] Albert von Kölliker, M.D.
[2] Charles James Lyell, M.A., C.I.E.
[2] Francisque Xavier Michel, F.S.A.
A. W. Momerie, M.A., D.Sc.
Henry John Roby, M.A.

1888.

Sir William Aitken, M.D.
Hon. Sir Charles C. S. Bowen
Alexander Cameron
[2] Giovanni Capellini
[2] Mortimer S. Howell, C.I.E.
Hon. Sir Nathaniel Lindley
Norman Macpherson
John Murray, Ph.D.
Thomas Graham Murray
[2] W. H. Walshe, M.D.

1889.

[2] Sir Syed Ahmed Khan, Bahadûr, K.C.S.I.
J. E. T. Aitchison, C.I.E., M.D., F.R.S., &c.
[2 3] James D. Dana.
[2] Francis Day, C.I.E., &c.
[2] Hon. David Dudley Field
[2 3] C. Gegenbaur.
[2 3] E. Haeckel.
[2] Rudolf von Jhering, Dr. Jur.
[2 3] E. E. Kummer.
William Mackintosh, M.A., Q.C.
[2 3] Konrad Maurer.
Maurice Paterson, B.A.
Richard Quain, M.D., F.R.S.,&c.
[2] Rudolf von Roth, Ph.D.
[2 3] Barthélemy St. Hilaire.
[2 3] Jules Simon.
Whitley Stokes, C.S.I., C.I.E., D.C.L., &c.
[2 3] Geheimrath Heinrich von Sybel.
James Ward, M.A., D.Sc.
[2] William Dwight Whitney
[2 3] B. Windscheid.

18th April 1890.

Sir Benjamin Baker, C.E.
Right Hon. Henry Chaplin, M.P.
Sir Dyce Duckworth, M.D.
Sir John Fowler, Bart., C.E.
[2] James Anthony Froude, M.A., LL.D.
Joseph H. Gilbert, M.A., Ph.D., LL.D., F.R.S.
James Hardy.
Sir John Kirk, M.D., G.C.M.G.
General Robert Maclagan, R.E.
John Marshall, M.A.

[1] The names of those who received the Degree prior to 1859 will be found in the "Catalogue of the Graduates in the Faculties of Arts, Divinity, and Law of the University of Edinburgh since its foundation," published in 1858, and of those who received the Degree from 1859 to 1888, both years included, in the List of Graduates published in 1889, and in previous Calendars.

[2] Conferred *in absentia*.

[3] Tercentenary Graduates unable to be present in 1884.

Right Hon. J. P. B. Robertson, M.P.
Frederic Seebohm, F.S.A.
[1] Emeritus-Professor C. Piazzi Smyth, F.R.A.S., &c.
Spencer Walpole.

10th June.

H. M. Stanley.

1st August.

Professor Pierre Paul Leroy-Beaulieu, Membre de l'Institut.
Professor William W. Goodwin, D.C.L. (Oxon.), of Harvard University.

17th April 1891.

Alexander Asher, Q.C., M.P., &c.
John Beddoe, M.D., F.R.S, &c., &c.
Major C. R. Conder, R.E., D.C.L.
Felix Dahn, Professor of Law, &c., University of Breslau, Geheimer, Justizrath, &c.
Alexander Campbell Fraser, D.C.L. (Oxon.), LL.D. (Glasg.), Professor of Logic and Metaphysics, University of Edinburgh.
Rev. Cunningham Geikie, D.D.
Sir George Murray Humphry, M.D., F.R.S., &c., Professor of Surgery, University of Cambridge.
Sir Herbert Stanley Oakeley, M.A., Mus. Doc., LL.D., D.C.L., Professor of Music, University of Edinburgh.
John Johnstone Rogerson, B.A., LL.B., Principal of Merchiston Castle School.

APPLICATIONS FOR SCHOLARSHIPS AND BURSARIES.

Candidates for Scholarships must enter their names and addresses, and exhibit the necessary certificates at the Office of the Clerk of Senatus at least one week before the date of the competition.

The examination for first year Bursaries is in Latin and Moral Philosophy. Applicants for the second and third year Grierson Bursaries must apply on or before 15th October, and must state what distinctions they have attained in the Law Classes of the previous year. See Nos. II. and III. below.

Where the competition is open to Graduates, their standing will be computed from the date of the Graduation Ceremonial immediately following the completion of their Law Examinations.

[1] Conferred *in absentia*.

I.—BURSARIES.

No. of Foundation.	Year of Found.	Name of Founder.	Total Annual Income.	No. of Bursars.	For Years.	Annual Allowance to each Bursar.	Patron.
I.	1871	The Sibbald Bursaries.	About 150 0 0	5	4	30 0 0	Trustees of Dr J. R. Sibbald.
II.	1873	The Grierson Trustees.	80 0 0	3	1	About 26 13 4	Senatus.
III.	1873	Geo. Cairns, Solicitor.	18 19 4	1	1	About 18 19 4	Senatus.
IV.	1878	DrAndrew Thomson.	100 0 0	4	4	25 0 0	Trus. of Dr Thomson.

I. These Bursaries may be held during the Curriculum in Law. *See* p. 204.

II. There are three Grierson Bursaries, each of the value of £26, 13s. 4d. annually. Deserving students from the parishes of Crawford or Leadhills, applying to the Clerk of Senatus on or before the 1st day of October, are entitled to preference, if they satisfy certain conditions;[1] and if the applicant is commencing his first Winter Session of the Law Curriculum he will be entitled to hold the Bursary for three years, provided "he prosecutes his studies with proper diligence."[1] The subjects of examination are Elementary Latin, English, and Arithmetic. The examination of preferential candidates will take place on Saturday, 24th October 1891, at 9 o'clock.

Failing preferential candidates, the Bursaries will be tenable for one year only, and will be awarded to candidates who have attended one year in the Faculty of Arts in some University, and have applied as above-mentioned to the Secretary of the Senatus. 1. In the case of those commencing their first Winter Session in Law, the award will be to the candidate who has passed highest in Latin and Moral Philosophy at the Arts Graduation examination in October. 2. In the case of candidates commencing their second Winter Session—to the most distinguished law-student of that standing, who, if not a Graduate in Arts, has passed satisfactorily in Latin and Moral Philosophy at the Arts Examination, either in October or earlier. 3. In the case of candidates commencing the third Winter Session of the Law Curriculum—to the most distinguished law-student of that standing who has passed satisfactorily in Latin, Moral Philosophy, and Logic at the Arts Examination in October or earlier. See Regulations, CALENDAR 1877-78, p. 370. *Bursars in* 1890—First year, *W. G. Wedderspoon.*

[1] See Calendar 1877-78, p. 370. By "proper diligence" is understood regular attendance on Classes, and on Class Examinations with reasonable proficiency.

Second year, *A. Blairford Smith, M.A.* Third year, *James Hastie* (Preferential Bursar).

III. The competition for the Cairns Bursary, which is tenable for one year only, and is not subject to any preferences, is subject to the same conditions as those for the second year Grierson Bursary. This Bursary is open to Students who have completed one year in the Law Faculty. *Bursar*—1890, *James Ballantine, M.A.*

IV. For the *Thomson Bursaries* application should be made to Messrs Traquair, Dickson, & Maclaren, 11 Hill Street. Candidates of the name of Thomson or Traquair, or natives of the town or county of Dumfries, or of the city of Edinburgh, are preferred. The Examination is in Latin and Moral Philosophy, and is the same as the October Examinations in those subjects for M.A. See CALENDAR 1879-80, p. 345. *Bursars*—1887, *J. W. Forbes, M.A.* 1888, *T. B. Morison.* 1889, *Robert Munro, M.A.* 1890, *F. J. Thomson, M.A.* (Preferential Candidate).

II.—VANS DUNLOP LAW SCHOLARSHIPS.

General Regulations.

Four Vans Dunlop Scholarships, each of the value of about £100 per annum, and tenable for three years, are more or less directly connected with the Faculty of Law :—

I. *Vans Dunlop Scholarship in Commercial and Political Economy and Mercantile Law*, for which both Law and Arts Students are eligible.

Next vacancy in October 1891.

See Scholarships in Arts (XXXI., p. 219).

Scholars—1888, *A. H. Briggs Constable, M.A.; proxime accessit—J. M. Irvine, M.A., B.Sc.*

II. *Vans Dunlop Scholarship in the Law of Nature and Nations, Civil Law, and Constitutional Law and History.*

(*a.*) The Competition is open to all Candidates who, within the three years immediately preceding the date of competition, shall have graduated in Law in this University, or shall have passed the Graduation Examination in the three subjects of examination for the Scholarship : provided they have written papers of the LL.B. standard at the Graduation Examination, and have obtained an average of not less than 75 per cent. of marks in these subjects.

(*b.*) The Competition is by written Essays on branches of law to be announced at least one year before the date of competition. The precise subject of each of the essays will be set on the conclusion of the Graduation Examination in October.

(*c.*) The Examiners are the Professors of the prescribed subjects, assisted by the additional Law Examiners.

Next vacancy in October 1892.

Scholars—1886, A. W. Donald, M.A. 1889, *J. M. Irvine*, M.A., B.Sc.

III. *Vans Dunlop Scholarship in Scots Law and Conveyancing.*

(*a.*) The Competition is open to all Candidates who, within the three years immediately preceding the date of competition, shall have graduated in Law in this University, or shall have passed the Graduation Examination in Scots Law, Conveyancing, and Medical Jurisprudence: provided they have obtained at the Graduation Examination an average of not less than 75 per cent. of marks in these three subjects.

(*b.*) The Competition is by written Essays on (1) the Civil Law of Scotland; (2) the Criminal Law of Scotland; and (3) Conveyancing, the particular branches of which will be announced at least one year before the date of competition. The precise subject of each essay will be set on the conclusion of the Graduation Examination in October 1893.

(*c.*) The Examiners are the Professors of the prescribed subjects, assisted by the additional Law Examiners.

Next vacancy in October 1893.

Scholars—1887, John Graham Stewart, LL.B.
1890, *William Hunter, M.A., LL.B.*

IV. *Vans Dunlop Scholarship in History.*

Next vacancy in October 1892.

See Scholarships in Faculty of Arts (XXXVI., p. 221).

1886. James Marwick, M.A. | 1889. *D. P. Heatley.*

CONDITIONS OF TENURE.

Each holder of No. II. and No. III. of these Scholarships will be required to deliver, to the satisfaction of the Faculty of Law, two courses of three lectures each on one of the subjects of examination for the Scholarship, viz., one course in the second, and the other in the third year of his tenure.

V. *Lorimer Scholarship Fund.*

This Scholarship, founded in memory of the late Professor Lorimer, will probably be awarded to the most distinguished student in Public Law and certain other subjects in the course of 1892. The value of the Scholarship will be announced when the requisite capital has been obtained.[1]

[1] *Note.*—Further contributions will be gratefully received by the Secretary of the Senatus, or by Professor Goudy, University of Edinburgh.

III.—WILLIAM DICKSON TRAVELLING FUND.

This fund is for the purpose of assisting Graduates of any Faculty of not more than three years' standing to travel for the purposes of study or research. For particulars, see page 225.

IV.—THE FORENSIC PRIZE.

This Prize, of the value of £10, founded in 1858 by the Forensic Society with the view of encouraging the study of Roman Law, is awarded annually in July. The Fund, amounting to about £280, is invested in the name of the Dean and Treasurer of the Faculty of Advocates and the Professors of Civil and Scots Law.

1887. William Thomson, LL.B.
1888. A. M. Anderson, LL.B.
1889 { W. Hunter, LL.B. / J. M. Irvine, LL.B. } equal
1890 { *Alex. Brown, LL.B.* / *T. B. Morison, LL.B.* } equal

SCHOLARSHIPS, BURSARIES, AND PRIZES, &c., OPEN IN 1891-92.

I. Scholarships.

No. I. of the above Scholarships will be open for competition after the conclusion of the Graduation Examination in October 1891. The works on Political Economy recommended to Candidates are :—

Adam Smith's *Wealth of Nations.*
Sidgwick's *Principles of Political Economy.*
Bastable's *Theory of Foreign Trade.*
Nicholson's *Money and Monetary Problems.*
Cunningham's *Growth of English Industry and Commerce.*
List's *National System of Political Economy.*
Nicholl's *History of the English Poor Law;* and *History of the Scotch Poor Law.*
Rae's *Contemporary Socialism.*

Those on Mercantile Law :—
Bell's *Commentaries*, Book ii., part 3, chap. 2.
,, ,, Book iii., part 1, chap. 2, sec. 4.
,, ,, ,, ,, chap. 3, sec. 1.
Benjamin on Sales (3rd ed.).
Smith's *Mercantile Law* (10th ed.).
Chalmers's *Bills of Exchange* (3rd ed.)

No. II. will be offered for competition after the conclusion of the Graduation Examination in October 1892. The subjects of the Essays to be set will be taken from the following branches of Law :—

(1.) "Treaties."
(2.) "The Roman Law of Sale."
(3.) "The Constitution during the Georgian Era."

No. IV. will be offered for competition on the third Monday, Tuesday, and Wednesday in October 1892, beginning at 10 A.M. each day. The subjects prescribed are :—

(1.) "History of Great Britain from 1714 to 1820."
(2.) "History of Scotland for a century and a half before the Union."
(3.) "History of Greece from B.C. 500 to B.C. 400, with special reference to the growth of the Athenian Constitution."
(4.) "History of France under Louis XIV."

II. Bursaries.

The Subjects of Examination for first-year Bursaries are Latin and Moral Philosophy, and the papers are the same as those set in the October Examinations for the Degree of M.A.

Three Grierson Bursaries, value £26, 13s. 4d. each, restricted in the first place to natives of the parishes of Crawford and Leadhills, and tenable for three years, whom failing they will be tenable for one year, one open to Students beginning their first Winter Session, one to Students beginning their second Winter Session, and one to Students beginning their third Winter Session (see general rule as to application, *sup.*).

The *Cairns Bursary*, value £18, 19s. 6d., tenable for one year (see general rule, *sup.*).

The *Sibbald Bursaries* are also tenable by Students of the Faculty of Law entering the University for the first time ; see Bursaries (Arts) No. LII., pp. 195, 201.

A *Thomson Bursary*, of £25 a year, tenable for four years. Candidates must be Matriculated Students commencing their First Winter Session in the Faculty of Law, and must intimate their intention to compete to Messrs Traquair, Dickson, & Maclaren, W.S., 11 Hill Street, the Agents for Dr Thomson's Trustees, and also to the Clerk of the Senatus on or before 1st October. Candidates of the name of Thomson or Traquair, or natives of the town or county of Dumfries or the city of Edinburgh, are preferred.

III. Prizes.

1. The *Forensic Prize* of £10 is awarded annually in July to the Student who has regularly attended the Civil Law class during the academic year immediately preceding, and who has attained the highest distinction in the special Forensic Prize Examination.

2. The *William Dickson Travelling Fund* is for the purpose of assisting Graduates of any Faculty of not more than three years' standing to travel for the purpose of study or research. Applications must be lodged with the Secretary of Senatus on or before 15th March annually. See page 225.

3. The *Lord Rector's Prize*, of twenty-five guineas, for the best Essay on "How far Ethical Considerations should enter into the domain of the Science of Political Economy." The Prize is open to Students of the University, and to Graduates of not more than two years' standing. Essays to be lodged with the Secretary before 1st November, each bearing a motto, and containing the name, address, and University standing of the Candidate.

4. Prize of Twenty Guineas, offered by the *Edinburgh University Club of London*, open to all Graduates of this University of not more than two years' standing, for the best Essay on "The Education of our Legislators." Essays to be lodged with the Secretary of Senatus, on or before 31st December 1891, each bearing a motto, and accompanied by a sealed envelope containing the name, address, and University standing of the Candidate.

5, 6, 7. *The Trustees of Gray's Prize Essay Fund* offer three Prizes —one of £20 for the best, one of £10 for the second best, and one of £5 for the third best Essay on "The Life and Poetry of John Milton." See page 207.

JOHN KIRKPATRICK, LL.D.,
Dean of the Faculty of Law.

IV.

FACULTY OF MEDICINE.

Dean.

PROFESSOR THOMAS RICHARD FRASER, M.D., F.R.S.,

University New Buildings.

Programme of Classes.

—o—

FACULTY OF MEDICINE.

SUMMER SESSION, 1891.

The Classes will be opened as follows, and will meet daily (Saturdays excepted), unless otherwise stated.

Classes.	Days of Opening and Hours of Lectures.	Professors.	Class Fees.
Botany	4 May, 9 o'clock	Prof. Bayley Balfour,	£4 4[1]
Practical Botany	4 May, 8 & 10 ,,		2 2
Field Demonstrations on *Saturdays*.			
Medical Jurisprudence	4 May, 10 ,,	Prof. Sir Douglas Maclagan,	4 4
Natural History	4 May, 2 ,,	Prof. Ewart,	4 4
Advanced Class	4 May, 4 ,,		2 2
Practical Zoology	4 May, 10.45 and 12.15 o'clock		2 2[2]
Advanced Prac. Zool.	4 May, 1.30 ,,		3 3[2]
Prac. Materia Medica (incl. Pharmacy)	4 May, 10 ,,	Prof. T. R. Fraser,	3 3
Chemistry (Organic), Advanced Class — (*Tues., Wed., & Thur.*)	5 May, 1 ,,	Prof. Crum Brown,	2 2
Do., Practical	4 May, 11 ,,		3 3
Anatom. Demonstra.	5 May, 11 ,,	Prof. Sir W. Turner and Demonstrators.	2 2
Practical Anatomy	4 May, *daily*.		
Clinical Surgery— (*Mon. & Thurs.*)	4 May, 12 ,,	Prof. Annandale,	3 3
Clinical Medicine— (*Tues. & Fri.*)	5 May, 12 to 2	Profs. Grainger Stewart, T. R. Fraser & Greenfield, and Prof. Simpson on Dis. of Women.	3 3
Clinical Instruction in the Royal Infirmary.	Daily at Noon	The Clinical Professors	Hospital Ticket.[3]
Obstetrical and Gynecol. Operations— (*Tues. & Fri.*)	5 May, 10 o'clock	Prof. Simpson,	3 3

[1] Besides Garden Fee of 5s. [2] Besides charge of 10s. for Laboratory Expenses.
[3] For Fees see page 330.

FACULTY OF MEDICINE—*continued.*

Classes.	Days of Opening and Hours of Lectures.	Professors.	Class Fees.
Practical Physiology, including Histology....	4 May, 3 ,,	Prof. Rutherford,	£3 3
Operative Surgery and Surgical Appliances	4 May, 2 ,,	Prof. Chiene, ...	3 3
Practical Morbid Anatomy and Pathology	4 May, 11 ,,	Prof. Greenfield,...	3 3
Mental Diseases, with Clinical Instruction at Morningside Asylum (*Mon. Wed. & Frid.*)	4 May, 3 o'clock	Lecturers. Thos. S. Clouston, M.D., ...	3 3[1]
Diseases of the Eye ...	5 May, 9 ,,	D. Argyll Robertson, M.D.,	3 3[1]
Clinical Instruction on Diseases of Children, at Royal Hospital for Sick Children.....	4 May, *Mon.* 4.15; *Sat.* 11.45.	James Carmichael, M.D., John Playfair, M.B., ...	1 1[1]

WINTER SESSION, 1891-92.

The Classes in the Faculty of Medicine will be opened on Tuesday, 13th October. They will meet daily (Saturdays excepted), unless otherwise stated.

Classes.	Days of Opening, and Hours of Lectures.	Professors.	Class Fees.
Practice of Physic ...	13 Oct., 9 o'cl.	Prof. G. Stewart,	£4 4
Chemistry	13 Oct., 10 ,,	Prof. Crum Brown	4 4
Practical Chemistry	1 Dec., 11, 12, and 2 o'cl.	Prof. Crum Brown	3 3
Surgery	13 Oct., 2 ,,	Prof. Chiene, ...	4 4
Institutes of Medicine	13 Oct., 11 ,,	Prof. Rutherford,	4 4
Practical Physiology	14 Oct., 9 ,,	Prof. Rutherford,	3 3
Midwifery & Diseases of Women & Childr.	13 Oct., 10 ,,	Prof. Simpson, ...	4 4
Clinical Surgery— Royal Infirmary, *Mon. & Thurs.*	15 Oct., 12 ,,	Prof. Annandale,	4 4

1 Five Shillings University Entrance-Fee for Non-Matriculated Students.

FACULTY OF MEDICINE—*continued.*

Classes.	Days of Opening and Hours of Lectures.	Professors.	Class Fees.
Clinical Medicine—Royal Infirmary, *Tues. & Fri.* ...	13 Oct., 12-2 o'cl	Profs. G. Stewart, T. R. Fraser, and Greenfield, and Simpson on Diseases of Women,.....	£4 4
Clinical Instruction in the Royal Infirmary	Daily at Noon	The Clinical Professors.....	Hospital Ticket.[1]
Anatomy	13 Oct., 1 o'cl.	Prof. Sir William Turner, ...	4 4
Practical Anatomy ...	1 Oct., *daily*		3 3
Anatom. Demonstr. ..	13 Oct., 4 o'cl.		2 2[2]
Materia Medica	13 Oct., 2 ,,	Prof. T. R. Fraser,	4 4
Pract. Mat. Medica, includ. Pharmacy	14 Oct., 10 ,,		3 3
General Pathology ...	13 Oct., 3 ,,	Prof. Greenfield,	4 4
Practical Pathology	13 Oct., *daily*		3 3
Natural History[3].....	13 Oct., 2 o'cl.	Prof. Ewart, ...	4 4
Advanced Class[3].....	13 Oct., 2 ,,		2 2
Practical Zoology[3] ...	13 Oct., 11 ,,		2 2[4]
Advanced Prac. Zool.[3]	14 Oct., 1 ,,		3 3[4]
Public Health Lectures	In Spring	Prof. Sir Douglas Maclagan, ...	
Sanitary Engineering and Drawing	11 Nov., 10 o'cl.	Prof. Armstrong,	3 3
Botany[3]	13 Oct., 4 ,,	Prof. B. Balfour,.	4 4
Prac. Bot. Element.[3]	13 Oct.,		2 2
Do. do. Advanced[3]	13 Oct.,		3 3
Clinical Instruction on Diseases of Children	17 Oct., 11.45 o'cl.	Lecturers. Jas. Carmichael, M.D., John Playfair, M.B.,	1 1[5]
Compar. Embryology	5 Jan. 2 ,,	Mr George Brook,	3 3[5]

The Fee for a Second Course of any of the Lectures is £3, 3s.; any subsequent course is free. If a Perpetual Ticket is taken out at the beginning of the First Course, the Fee is £6, 6s.

[1] For Fees see page 330. [2] When taken along with Practical Anatomy, £1, 1s.
[3] Three Months' Course. [4] Besides charge of 10s. for Laboratory Expenses.
[5] Five Shillings University Entrance-Fee for Non-Matriculated Students.

ROYAL INFIRMARY.

Royal Infirmary at Noon, *Daily*.—Perpetual Ticket, in one payment, £12 ; Annual Ticket, £6, 6s.; Six Months, £4, 4s.; Three Months, £2, 2s. Separate payments, amounting to £12, 12s., entitle to a Perpetual Ticket.

MATRICULATION FEES.

For the Academical Year, 1st October to 1st October, .	£1	0	0
For the Summer Session only, 1st May to 1st October, .	0	10	0
University entrance-fee in lieu of Matriculation for each of certain additional Courses (see Class-Lists), . .	0	5	0

CLASS SESSIONS.

There are Two Sessions in each year, viz. :—

I. The Summer Session, which opens on the 4th of May and closes on the 17th of July 1891.

II. The Winter Session, which opens on the 13th of October 1891, and closes on the 18th March 1892. Practical Anatomy and Public Health Laboratory work begin on the 1st of October 1891.

The Classes will meet for the last time before the Christmas Vacation on Friday, 18th December 1891, and will re-assemble on Tuesday, 5th January 1892.

LABORATORIES.

Royal Botanic Garden and Botanical Museum and Laboratory.—These, as well as the Herbarium, with which is incorporated the Collection of dried plants belonging to the University, are used by University Students for the practical study of plants and for botanical research, and are open daily, under the superintendence of the Professor, assisted by J. M. Macfarlane, D.Sc., and others.

Physiological Laboratory, for the prosecution of Physiological Research, and for the study of Practical Physiology, open daily, under the superintendence of the Professor and John Berry Haycraft, M.D., D.Sc., assisted by E. W. Carlier, M.B., B.Sc.

Practice of Physic Laboratory, for the study of Medicine, and for research in connection with the Practice of Physic, open daily, under the superintendence of the Professor, assisted by Robert A. Fleming, M.A., M.B., C.M.

Dissecting Rooms, open daily under the superintendence of Professor Sir William Turner, assisted by David Hepburn, M.B., C.M.; James Musgrove, M.D. ; A. L. Turner, M.B., C.M. ; and other assistants. Opens 1st October 1891.

The CHEMICAL LABORATORIES (distinct from the Practical Chemistry Room), completed in 1885, contain accommodation for forty Students. The Laboratories are fitted with all necessary apparatus for chemical analysis and research, open daily, under the superintendence of the Professor, assisted by John Gibson, Ph.D.; James Walker, D.Sc., Ph.D.; and Thomas S. Murray, D.Sc.[1]

OBSTETRICAL AND GYNECOLOGICAL LABORATORY, for research and study of practical work, under the superintendence of the Professor, assisted by J. Clarence Webster, B.A., M.B., C.M.

TUTORIAL CLASS OF CLINICAL MEDICINE, in the Wards of the Royal Infirmary, by J. Murdoch Brown, M.B., C.M., under the superintendence of the Clinical Professors.

NATURAL HISTORY LABORATORIES, for study of the structure and development of Invertebrate and Vertebrate forms, open daily, under the superintendence of the Professor, assisted by J. Beard, B.Sc., Ph.D., and others.[1]

MATERIA MEDICA LABORATORIES, for the study of Practical Materia Medica and Practical Pharmacy, and for Pharmacological and Pharmaceutical research, open daily, under the superintendence of the Professor, assisted by Joseph Tillie, M.D., and William C. Sillar, M.B., C.M., B.Sc.

TUTORIAL CLASS OF CLINICAL SURGERY AND SURGICAL PATHOLOGY, in the Infirmary, by A. Logan Turner, M.B., C.M., and the Resident Surgeons, under the superintendence of the Clinical Professor.

PUBLIC HEALTH LABORATORY, for Hygienic investigation, comprises three departments, viz.: a Chemical, a Bacteriological, and a Meteorological Department, open daily, under the superintendence of the Professor, assisted by Charles Hunter Stewart, M.B., C.M., B.Sc. Opens 1st October 1891.[1]

SURGICAL LABORATORY, divided into two parts—(*a*) General Surgical Pathology, (*b*) Bacteriology,—is utilised for teaching Systematic Surgery, and every facility is afforded for investigation, under the superintendence of the Professor, assisted by Harold J. Stiles, M.B., C.M.

PATHOLOGICAL LABORATORY, for the study of Pathological Anatomy and for Pathological Research, including Histological and Bacteriological Departments, under the superintendence of the Professor, assisted by W. H. Barrett, M.B., C.M., and Robert Muir, M.D.

EMBRYOLOGICAL LABORATORY, for research and for study of the development of Vertebrate and Invertebrate Types, open daily under the Superintendence of the Lecturer.

THE ROYAL EDINBURGH ASYLUM is open to members of the Class of Mental Diseases for Practical Instruction, under the superintendence of the chief Physician.

---

[1] Fees—Winter Session, £10, 10s.; Summer Session, £6, 6s.

MINIMUM CURRICULUM FOR DEGREES IN MEDICINE, WITH SUGGESTED ORDER OF STUDY AND EXAMINATION.

Whilst there is no authorised order of study, the usual Course is given below. The Preliminary Examination in General Education is to be taken in the month of March or of October, before entering the Classes in the Faculty of Medicine. Students are recommended to begin their Studies in the Summer Session.

It is to be observed that the Table gives only one Course of Instruction on each subject, that being all that is required by the Regulations. It does not include extra courses, nor courses on special subjects which Students may voluntarily attend. Those who can spare the time, are recommended to extend the course of study over five years.

FIRST SUMMER SESSION.
- Preliminary Examination (if not previously passed).
- Botany.[1]
- Natural History.[1]

FIRST WINTER SESSION.
- Anatomy.
- Practical Anatomy.
- Chemistry.[1]
- Practical Chemistry.[1]

SECOND SUMMER SESSION.
- Botany or Natural History (if not previously attended).
- Practical Chemistry (if not previously attended).
- Hospital. (Perpetual Ticket).

SECOND WINTER SESSION.
- Institutes of Medicine.
- Practical Physiology.
- Surgery.
- Hospital.

THIRD SUMMER SESSION.
- Practical Materia Medica, including Practical Pharmacy.
- Practical Physiology (if not previously attended).
- Practical Pathology.
- Hospital.

THIRD WINTER SESSION.
- Materia Medica.
- Pathology.
- Clinical Surgery (can only be taken by students who at the time have tickets for hospital attendance at the Royal Infirmary).
- Hospital.
- Examination in Anatomy, Physiology, Materia Medica, Pathology in April or July.

FOURTH SUMMER SESSION.
- Medical Jurisprudence.
- Out Door Dispensary.
- Hospital and Clinical Classes.

FOURTH WINTER SESSION.
- Practice of Medicine.
- Midwifery.
- Practical Midwifery.
- Clinical Medicine (can only be taken by students who at the time have tickets for hospital attendance at the Royal Infirmary).
- Vaccination.
- Out Door Dispensary.
- Hospital.

FIFTH SUMMER SESSION.
- Hospital.
- Final Examinations for M.B. and C.M.

*** Information as to fees for the above and other classes will be found at pp. 327-331.

[1] See Section ix. p. 358, relative to First Professional Examination.

Professorial Courses of Lectures, &c.

1891-1892.[1]

—o—

I. ANATOMY.

PROFESSOR SIR WILLIAM TURNER.

Winter Courses.

1. LECTURES ON ANATOMY, at 1 P.M.—It is intended in this Course of Lectures to bring before the Student, in a systematic manner, the structure of the Human Body. The different systems and organs will be described, both in the more obvious arrangements and relations of parts which can be examined by the naked eye, and in their more minute or microscopic structure. The Course includes, therefore, both Textural or General Anatomy and Descriptive Anatomy. The Lectures are illustrated by recent dissections, by wet and dry preparations, by a large collection of Osteological specimens, and by drawings and diagrams. Structures too minute to be recognised by the naked eye are demonstrated under the Microscope.

To assist the Junior Members of the Lecture Class to acquire a knowledge of Osteology, Tutorial Demonstrations on the bones will be given during the earlier months of the Session without additional fee. All the members of this class have access to a systematically arranged series of osteological specimens and of models. Written examinations for both Junior and Senior Students are held periodically during the Session.

[1] Classes arranged as in the order of the departments enumerated in the Statutes relative to Degrees in Medicine.

Text-Books — The Professor's "Introduction to Human Anatomy," along with Gray's "Anatomy," or with Wilson's "Anatomy." Quain's "Elements of Anatomy." Holden's "Osteology."

2. ANATOMICAL DEMONSTRATIONS, at 4 P.M.—In this Course, which is conducted in the Theatre, the structure of the human body is displayed and demonstrated topographically, from the surface inwards. The Professor and the Demonstrator, David Hepburn, M.B., M.C., will jointly conduct the Course.

3. PRACTICAL ANATOMY, under the superintendence of the Professor, aided by the Demonstrators, David Hepburn, M.B., C.M., James Musgrove, M.D., and by several other assistants. Examinations of both Junior and Senior Students on dissected parts are regularly conducted by the Demonstrators and the Professor. Special tutorial Demonstrations will also be given to the Senior Students on the joints, the brain, the organs of special sense, and other viscera.

This Course will commence on Thursday, October 1st. The Dissecting-rooms are open from 9 A.M. to 5 P.M., and on Saturdays from 9 A.M. to noon. The Mackenzie Bursaries are awarded to members of this Class for proficiency in dissection.

Text-Books.—"Demonstrations of Anatomy," by Ellis, or Heath's "Practical Anatomy," or Holden's "Manual of the Dissection of the Human Body," or Cunningham's "Dissector's Guide."

Summer Courses.

1. PRACTICAL ANATOMY, as in Winter. The Course will commence on Monday, 4th May. The Rooms are open from 9 A.M. to 5 P.M.; on Saturdays from 9 A.M. to noon. Examinations are regularly conducted on dissected parts by the Professor and by the Demonstrators, David Hepburn, M.B., C.M., James Musgrove, M.D., A. Logan Turner, M.B., C.M., and other assistants, and the brain and organs of sense will be specially demonstrated.

2. ANATOMICAL DEMONSTRATIONS in the Theatre will commence on Tuesday, 5th May, and will be given partly by the Professor, and partly by the Demonstrator, David Hepburn, M.B. This Course is open, without additional Fee, to those engaged in Practical Anatomy during the Summer, and will consist of demonstrations on some special departments of Anatomy.

II. CHEMISTRY.

PROFESSOR CRUM BROWN.

1. LECTURES ON CHEMISTRY—

In the Lectures the general laws of chemical action are explained and illustrated.

The non-metallic elements and their compounds are described in detail. The metals and the different series of metallic salts are considered more generally, details being given in the case of the more important substances.

The principles upon which the classification of organic substances is based are explained, and the properties of the chief groups illustrated in detail.

Tutorial Classes, meeting once a week, are conducted by Dr Dobbin.

Text-Book.—Wurtz, "Elements of Modern Chemistry" by Greene.

A Class for Advanced Students is held in Summer. The subject for the Summer of 1891 will be Organic Chemistry.

2. LABORATORY.—The Laboratory is open for the reception of students who desire to study Analytical Chemistry, or to undertake chemical investigations. The instruction in the Laboratory is given by the Professor, assisted by Dr Gibson. [For details in reference to the HOPE PRIZE, and Hope Prize Scholarship, which are attached to the Laboratory, and the ROBERT WILSON MEMORIAL PRIZE, which is attached to the

Class of Chemistry, see under *University Prizes and Scholarships.*]

Attendance on this Course qualifies as "Practical Chemistry" for the First Professional Examination.

3. PRACTICAL CLASSES.—The work of these classes consists in the study of the reactions of the commoner salts.

III. MATERIA MEDICA AND THERAPEUTICS.

PROFESSOR THOMAS R. FRASER.

Materia Medica comprises the subjects of pharmacognosy, pharmacy, pharmacology, therapeutics, and dietetics; and the remedial applications of electricity and galvanism, heat and cold, &c. Instruction in Materia Medica is given in (A) a course of 100 Lectures during the Winter Session, and in (B) Practical Classes during the Summer Session, and of equivalent duration during the Winter Session.

A.—LECTURES ON MATERIA MEDICA AND THERAPEUTICS.—This course includes the following among other *Special Topics.*—1. The natural history, pharmacy, physiological action (or pharmacology), therapeutical uses, and modes of administering remedies, ordinarily so called. Such remedies consist of (*a*) mineral substances; (*b*) vegetable substances; (*c*) animal substances. 2. Food and drink, considered generally and in reference to disease. 3. Electricity and galvanism, with a description of the apparatus required for their application in disease. 4. Heat and cold. 5. Climate. In each course of Lectures the subjects included in 1 will be fully discussed, but a selection only will be made from the subjects included in 2, 3, 4, and 5, according to the time that may be left for their consideration.

B.—PRACTICAL CLASSES.—In these classes, *practical* instruction is given in the following subjects embraced in Materia

Medica, but which cannot satisfactorily be taught in a course of lectures :—1. Pharmacognosy, or the recognition of drugs by their physical and chemical characters, and the detection of adulterations. 2. Pharmacy, or the processes for obtaining the pharmaceutical preparations of drugs. 3. Dispensing, or the making up of medicines in forms suitable for administration in disease.

It is recommended that the practical class be attended before, or simultaneously with, the course of lectures on Materia Medica and Therapeutics. Practical classes are taught during the Summer Session, when they meet daily at such hours as are found most convenient. A winter class will also be formed in October.

Pharmacological and Pharmaceutical Laboratories.

The above laboratories will be open daily to present and former Students of the class of Materia Medica for Pharmacological and Pharmaceutical Research, under the superintendence of the Professor and his Assistants.

IV. INSTITUTES OF MEDICINE OR PHYSIOLOGY.

PROFESSOR RUTHERFORD.

This Course, consisting of 100 Lectures, is held in the Winter. It includes an account of—

1. The Structure, Composition, and Functions of the Tissues of the Body.
2. The Nutrition of the Body, including Circulation, Respiration, Alimentation, Nutrition of the Tissues, Excretion, together with the minute structure of the organs concerned.
3. Animal Heat.
4. Voice and Speech.
5. The minute structure and physiology of the Sense organs, and the special physiology of the Nervous System.

6. Reproduction and Development.

There is a printed Syllabus with short notes of the Lectures.

Text-Book—Foster's Physiology.

Books recommended for consultation.—Landois' "Physiology," Halliburton's "Chemical Physiology," Bunge's "Physiological Chemistry," M'Kendrick's "Physiology."

Practical Physiology.

This Course is divided into three sections—

1. *Practical Histology*, in which every Student prepares, examines, and preserves for himself most of the tissues and organs of the body. Each student is provided with a microscope, and all reagents.

2. *Practical Chemical Physiology*, in which every student performs the qualitative and quantitative analysis of the Urine in its normal and abnormal conditions, with special reference to clinical work, and such practical work at the Chemistry of Proteids, Fats, and Carbohydrates, Pigments, Blood, Milk, and Bile as is possible in a class.

The above sections of the class are held both in the Winter and Summer Sessions. In each session the class meets sixty times.

3. *Demonstrations of Physiological Instruments.*—This section of the class is held only in Winter, and is open to all who have attended the other sections of the course.

Physiological Research.

The Physiological Laboratory is open daily for the prosecution of Physiological Research. Application must be made to the Professor.

V. PRACTICE OF PHYSIC.

PROFESSOR GRAINGER STEWART.

This Course comprises—

I. An account of the nature, and more particularly of the

clinical characteristics, and the treatment of the different types of morbid action.

II. An account of the morbid anatomy, clinical history, causes, diagnosis, prognosis, and treatment of the diseases of the different systems and organs.

It is intended that each course shall be, as far as possible, complete; but that, while the general principles (included in Part I.) shall be fully discussed each session, the diseases of individual systems (included in Part II.,) shall be taken up in different order year by year, and certain systems selected for more minute consideration.

The course is illustrated by specimens from the Anatomical Museum of the University, and from the Professor's private collection, as well as by numerous drawings, diagrams, and charts.

Tutorial Class.

Practical instruction in Laryngoscopic and Ophthalmoscopic Examination is given to the members of the Class by the Assistant.

Text-Books.—Fagge's, Bristowe's, Bartholow's, Roberts, or Dr Frederick Taylor's "Practice of Medicine." Students are also advised to consult the Professor's "Introduction to the Study of Nervous Diseases," and Dr Graham Brown's "Medical Diagnosis."

VI. SURGERY.

PROFESSOR CHIENE.

Winter Session.

1. *Lectures*, 2 P.M. This course of lectures is devoted to a systematic consideration of the Principles and Practice of Surgery. It is intended that each course shall embrace, as far as possible, a complete view of the present aspects of the Science and Practice of Surgery.

Written examinations are held at stated periods, and at the

end of the Session a practical examination is held on the work of the Tutorial Classes.

2. *Tutorial Instruction*, at hours most convenient for the students, includes—

(*a.*) *Practical Instruction* in *Bandaging* and the *Treatment* of *Fractures* and *Dislocations* on the living subject. This class is divided into sections for Senior and Junior Students. The class for Senior Students is conducted by David Wallace, M.B.; the Class for Junior Students by Harold J. Stiles, M.B.

(*b.*) Demonstrations of Surgical Instruments and Appliances.

(*c.*) Weekly Demonstrations on the Surgery of the Eye and Ear and on Surgical Pathology, illustrated by museum specimens by David Wallace, M.B.

(*d.*) Weekly Revisal of the Lectures, together with Demonstrations of the Preparations in the Surgical Museum illustrative of the Lectures on Surgery by Harold J. Stiles, M.B.

(*e.*) Demonstrations on the principles of Antiseptic Surgery by David Wallace, M.B.

Summer Session.

The Summer Session is devoted to a consideration of Practical Aspects of Surgery. Special attention is given to Surgical Anatomy and Operative Surgery. The class meets daily during the months of May and June. During July the class is divided into sections for practical work. Oral examinations and tutorial instruction in the Treatment of Fractures and Dislocations, and in the uses of surgical instruments, form a special part of the course. Special demonstrations are given on Surgical Pathology.

The Surgical Laboratory is divided into two departments,—1st, Surgical Pathology; 2d, Bacteriology. It is open daily for original work during the Winter and Summer Sessions, under the superintendence of the Professor, assisted by Harold J. Stiles, M.B. Applications to be made to the Professor.

Text-Books—Winter Session.—The Professor's "Lectures on the First Principles of Surgery." Erichsen's "Science and Art of Surgery," 9th edition, by Marcus Beck. *Summer Session.*—The Professor's "Lectures on Surgical Anatomy," and Jacobson's "Operative Surgery."

VII. MIDWIFERY AND THE DISEASES OF WOMEN AND CHILDREN.

PROFESSOR SIMPSON.

The Course of Instruction comprises Lectures on—

I. The Anatomy and Physiology of the Female Organs of Reproduction.

II. The Physiology, Pathology, and Therapeutics of Pregnancy.

III. Parturition—Natural (Eutocia), and Morbid (Dystocia).

IV. The Hygiene, Pathology, and Therapeutics of the Puerperal State.

V. The Hygiene, Pathology, and Therapeutics of Infancy and Childhood.

VI. The Special Pathology and Therapeutics of the Female Organs of Reproduction.

One day in each week is devoted to the Gynecological Section of the Course; and the Diseases of Women may be studied clinically in the Royal Infirmary, in the Buchanan Medical Ward, in connection with the class of Clinical Medicine.

Midwifery may be studied clinically in the Royal Maternity, of which the Professor is, *ex officio*, one of the Medical Officers, and where he is in attendance during the first three months of the Winter Session. The Professor makes a special Clinical visit with the Members of the Class, who have taken the Maternity Ticket, on Saturdays, at the usual Lecture hour—10 A.M.; and one of the Assistant Physicians gives Clinical Instruction on Wednesday afternoons at 4 P.M.

After the Class-roll is made up, Tutorial classes are formed for Practical Instruction in the use of Obstetric and Gynecological Instruments and Appliances.

Medals and Certificates of Merit are awarded for answers at three Written Examinations held during the Session.

Summer Session.

A Course of Instruction in Obstetric and Gynecological Opera-

tions, with Demonstrations of the use of Instruments and Appliances, is conducted during the Summer Session at 10 A.M.

On Tuesdays and Fridays the Professor gives Lectures and Demonstrations. On the other days of the week the sections of the class are trained in the investigation and treatment of Female Diseases, and the members of the class have an opportunity of practising operations on the recent subject, and on lay figures.

Text-Books.—Playfair's or Lusk's "Midwifery." The Professor's "Contributions to Obstetrics and Gynecology." Hart and Barbour's "Manual of Gynecology."

Scholarships in Midwifery and Gynecology.

The Buchanan Scholarship in Gynecology, and the James Scott Scholarship in Midwifery, are open to members of the class. For conditions, *see* "Scholarships in Medicine."

VIII. GENERAL PATHOLOGY, INCLUDING MORBID ANATOMY.

Professor Greenfield.

This Course includes General Pathology, General Pathological Anatomy and Histology, and Systematic Morbid Anatomy.

The subjects are treated mainly in the following order—

1. General Pathology (including General Pathological Anatomy), *i.e.*, the study of the processes of disease, as to their causation, phenomena, physiological and physico-chemical relations and characters. Under this head are considered Degenerative Processes, Inflammation, Repair, Morbid Growths, &c.

2. General Etiology is treated in fuller detail with reference to Parasitic and Infective Diseases, and includes Bacteriology, methods of bacteriological research, and a special study of the more important infective diseases.

3. Systematic Morbid Anatomy and Histology—a study of

the more important diseases of the principal systems and organs of the body, especially in relation to structural and physical alterations.

In illustration of the lectures, in addition to plates, diagrams, &c., there are frequent naked eye and microscopic demonstrations of recent specimens, of preparations from the University Anatomical Museum and from the Professor's private collection —and also demonstrations of apparatus, photographs, sections, &c., by the limelight, and in other ways.

Practical Pathology.

Classes for Practical Instruction in Morbid Anatomy and Pathological Histology are conducted in the Pathological Laboratory—microscopes and other necessary apparatus being supplied. The Course consists of—1st. Naked Eye Demonstration; 2d. Histological investigation and preparation of Morbid Structures and Organs.

For the Winter Course, the class meets three times a week, from the beginning of November till the end of March. For the Summer Course, five times a week, from the beginning of May till the end of July.

The Laboratory is also open daily from 10 A.M. till 4 P.M. for Pathological Research, under the direction of the Professor and his Assistants.

IX. CLINICAL MEDICINE.

PROFESSORS GRAINGER STEWART, T. R. FRASER, AND GREENFIELD, WITH PROFESSOR SIMPSON FOR DISEASES OF WOMEN.

The course of Clinical Medicine, consisting of Clinical Lectures and Instruction in the University wards of the Royal Infirmary, is conducted conjointly by the Clinical Professors—all the Professors being on duty during both the Winter and Summer Sessions, the Professor of Midwifery giving lectures and demonstrations on Gynecological Medicine on certain days, both during Summer and Winter.

The Course consists of:—1. Practical Instruction on three days

a week at the bedside. 2. Critical Expositions and Discussions of illustrative, important, or difficult cases in the lecture-room on two days a week.

Every facility is afforded to members of the Class to act as Clinical Clerks, and those are preferred who have already had a course of tutorial instruction. At the close of each Summer Session, six gentlemen, who have at some time been members of the Class, are appointed to be Resident Physicians in the Clinical Wards during the following Winter and Summer Sessions.

For notice of the Wightman Prize, see "University Prizes."

Clinical Tutorial Class.

Practical instruction in the Methods of Physical Examination is given to the members of the Class by the University Clinical Tutor.

Junior Students are strongly advised to take this course of instruction along with their first course of Clinical Medicine.

X. CLINICAL SURGERY.

PROFESSOR ANNANDALE.

The objects of this Course are to teach the symptoms, diagnosis, and treatment of Surgical diseases and injuries as met with in the living body, and to point out modifications and complications which occur in connection with them. With these views patients are brought before the class in the special University Clinical Theatre of the Infirmary, and their conditions are carefully examined and discussed, due regard being taken to avoid anything likely to injure their feelings or in any way aggravate their disease. The history and nature of the case having been studied, the proper treatment is suggested and described, and is then either carried out at once or on the first convenient occasion. In addition to the regular lectures operations are performed in the Clinical Theatre, practical demonstrations are given in the wards of the Infirmary, and upon one day in the week the cases of patients attending the out-patient

department are made a special consideration, so as to instruct the students in connection with the minor and more common surgical affections. Practical instruction as to the examination of patients, the observation of symptoms, the treatment of surgical emergencies, the use of instruments, the application of dressings, and other surgical details is given by the Clinical Tutor attached to the Chair, in small classes, which are free to all Students attending the Course.

Text-Books.—Spence, Erichsen, Holmes, Bryant, or other recent works on Surgery. Students are also advised to study some of the best works (old and new) on the special subjects of Practical Surgery.

XI. MEDICAL JURISPRUDENCE.

PROFESSOR SIR DOUGLAS MACLAGAN.

Part I.—Medical Jurisprudence.

MEDICAL EVIDENCE GENERALLY.

1. Documentary.
2. Oral.
3. Experimental—

Examination of the living; identity; Examination of the dead; identity; cause of death; exhumations, autopsies.

MEDICAL EVIDENCE SPECIALLY.

Questions affecting Health or Life.

1. Assaults and Homicide—

Wounds and other external injuries; asphyxia. Starvation. Heat and cold. Poisons.

2. Suicide.
3. Offences against Chastity—

Rape, &c.; concealment of pregnancy; criminal abortion; infanticide.

4. Malpraxis and Neglect of Duty.

Questions affecting Civil Rights or Social States.

Marriage and Divorce. Impotence and sterility. Live birth; Survivorship. Insanity. Feigned diseases.

Part II.—Medical Police. Public Health.

HYGIENE OF INDIVIDUALS.

Man—

Age and development. Sex. Constitution.

External Agencies—

Food and Drink. Air. Clothing. Ablutions. Exercise.

Habits and Modes of Life—

Temperance. Celibacy and Marriage. Professions: learned, mechanical, criminal. Punishments. Prostitution.

Duration and Expectancy of Life—

Life Assurance.

HYGIENE OF COMMUNITIES.

Sanitary Administration.

Climate—

Causing disease; remedying disease.

Towns, Camps, and Private Habitations—

Topographical position; water supply; heating and lighting; ventilation; drainage and sewerage.

Public Buildings—

Schools; churches; hospitals; theatres; prisons.

Cemeteries. Quarantine Establishments. Epidemics; Endemics. Disinfectants.

Text-Books.—Taylor's "Medical Jurisprudence," Guy's "Principles of Forensic Medicine," Parkes' "Practical Hygiene," Wilson's "Handbook of Hygiene," Louis Parkes' "Hygiene," Wynter Blyth's "Manual of Public Health," Whitelegge's "Hygiene and Public Health," Smith's "Laws Concerning Public Health," Vesey Fitzgerald's "Epitome of the Laws affecting Health," Newsholme's "Vital Statistics," Dykes' and Stuart's "Manual of Public Health Acts."

Public Health Laboratory.

The Laboratory comprises three Departments, the Chemical Laboratory, the Bacteriological Laboratory, and a station for

making meteorological observations, and the examination of emanations from the soil.

The Laboratories will be open daily during the Winter and Summer Sessions, from 10 to 4, under the superintendence of the Professor and Charles Hunter Stewart, M.B., B.Sc.

The work in these Laboratories will constitute an advanced course of instruction in the Methods of Hygienic investigation, and is intended for those who may desire to prepare themselves for taking the Degrees of Science in Public Health, or for the duties of Medical Officer of Health.

The Fees are £10, 10s. for the Winter, and £6, 6s. for the Summer Session.

XII.—BOTANY.

PROFESSOR BAYLEY BALFOUR.

Summer Session.

I. LECTURES.—The course is a general one—Morphological, Physiological, and Systematic—illustrated by diagrams, models, and fresh specimens, and by demonstrations of microscopic specimens. Lectures are given every Monday, Tuesday, Wednesday, Thursday, and Friday. In addition, lectures on special parts of the subject are given at intervals during the Session.

II. PRACTICAL CLASS.—In this class opportunity is given for the examination of microscopic structure of plants, and for the study of life-histories of plants illustrating the lectures. They are conducted by the Professor, assisted by J. M. Macfarlane, D.Sc., and others.

III. EXCURSIONS.—Excursions are made on Saturdays for the practical study of plants in the fields.

Winter Session.

I. LECTURES.—A three months' course of lectures similar to that of the Summer Session is given.

II. PRACTICAL CLASS.—A class similar to that of the Summer Session is conducted by the Professor and Assistants.

The Royal Botanic Garden, with the Botanical Museum and

Herbarium, are open daily for the examination of living as well as preserved specimens of plants.

XIII.—NATURAL HISTORY.

PROFESSOR EWART.

I. LECTURES ON ZOOLOGY.

Summer Session.

The first part of the course will treat of the Principles of Biology as illustrated by the Life-History, Morphology, and Physiology of one of the Vertebrata. The Distinctive Characters of the Chordata, and the structure, habits, &c., of a series of vertebrate types will next be considered. The rest of the course will be chiefly devoted to (1.) The consideration of the various Invertebrate Groups, the leading types of which will be described in detail. (2.) The structure and life-history of the more important human parasites, and (3.) The principles of Embryology, Classification, and Geographical Distribution.

Winter Session.

The course of lectures in winter will deal with the same subjects as the Summer Course, but more attention will be given to the Morphology, Physiology, and Classification of the Invertebrata. Both the Summer and Winter Courses are intended to meet the requirements of Candidates preparing for the First Professional Examination in Medicine or the First Examination for the Degree of Bachelor of Science.

II. ELEMENTARY PRACTICAL ZOOLOGY.

Summer and Winter Sessions.

This Class is intended to assist Students preparing for the First Professional Examination in Medicine and the First B.Sc. Examination. In each Session the Members of the Class will study the anatomy of a series of animal types, such as :— Amœba, Paramœcium, Hydra, Distoma, Hirudo, Arenicola, Anodonta, Helix, Astacus, Periplaneta, Raia, Clupea, Rana, Columba, and Lepus.

III. ADVANCED CLASS.

Summer and Winter Sessions.

These Lectures are especially intended to assist Students in their preparation for the Second B.Sc. in Zoology. The lectures will have reference mainly to the types contained in the syllabus for the Second B.Sc. Examination, but account will also be taken of the progress of Scientific Research, and the more important recent discoveries will be described.

During the Summer Session an account will be given of the Comparative Morphology of the chief systems of organs of the Invertebrata, more especially of the nervous, reproductive, locomotor, and excretory systems, and also of the phenomena of Reproduction in the Protozoa and Metazoa.

The Winter Course will be devoted to the Comparative Morphology of the Vertebrata, the nervous system and its sense organs, electrical and luminous organs and the genito-urinary system receiving particular attention.

As far as time permits the present position of the question as to the morphological nature of the vertebrate head and skeleton will be discussed.

In both courses the principles which form the scientific basis of Comparative Morphology will be placed prominently before the student. The class will meet at least three times each week during the Summer Session and during the first half of the Winter Session.

LABORATORY WORK.

The Laboratory will be open during the Summer and the first half of the Winter Sessions for the dissection and microscopic examination of the types prescribed for the Second Bachelor of Science Examination in Zoology, and for the acquiring of a practical acquaintance with the methods of research.

RESEARCH WORK.

The Laboratories will also be available during both Sessions for research. Students desiring to be admitted for this purpose should apply to the Professor. No Laboratory fees will be charged for such Students.

LECTURES ON MENTAL DISEASES.

LECTURER—THOMAS S. CLOUSTON, M.D.

This course consists of—

1. Systematic Lectures in the University during the Summer Session on the Classification, Symptoms, Causes, and Treatment of Mental Diseases.

2. Demonstrations, naked eye and microscopic, in the University and at the Royal Asylum, Morningside, of the Morbid Anatomy of Insanity. These are supplemented by drawings. Students will have an opportunity of original investigation in the Pathological Museum of the Asylum.

3. Clinical instruction at the Royal Asylum, Morningside (West House), in all the forms of Mental Disease. Students have the opportunity of personally coming in contact with and examining the cases, so as to learn the modes of managing and dealing with patients labouring under Mental Disease, and they are exercised in the diagnosis of Insanity and the drawing up of certificates; the aim being to enable them to recognise its early stages, to distinguish its varieties, to adopt suitable treatment, and to advise the relatives as to the question of sending the patient to an asylum or not. There is a clinical field of 500 beds, comprising all the wards except those for private patients. This part of the course extends through the Summer and the last month of the Winter Session.

4. A few lectures on the medico-legal, hereditary, educational, and social relations of Mental Disease, and on its bearings and significance in ordinary medical practice.

There are Free Clinical Clerkships, tenable for three months,

in the Royal Edinburgh Asylum, and in several other Asylums, in connection with the class.

Text-Book.—Dr Clouston's "Clinical Lectures on Mental Diseases."

LECTURES ON DISEASES OF THE EYE.

LECTURER—D. ARGYLL ROBERTSON, M.D.

The course will consist—

1. Of systematic lectures delivered daily at 9 A.M. for eight weeks during the Summer Session, at which the symptoms, diagnosis, and treatment of the more important diseased conditions of the eye and its appendages will be discussed. The lectures will be illustrated by drawings, diagrams, &c.

2. Of clinical instruction daily at the Ophthalmic wards of the Royal Infirmary, where opportunities will be afforded for practising the use of the ophthalmoscope. Special practical instruction will be given in ophthalmoscopic affections and errors of refraction.

Text-Books.—Swanzy's "Handbook on Diseases of the Eye,' Lawson on "Diseases and Injuries of the Eye," or Nettleship on "Diseases of the Eye."

Works of reference.—Berry's "Treatise on Diseases of the Eye." Meyer's "Practical Treatise on Diseases of the Eye," translated by Fergus. Juler's "Ophthalmic Science and Practice." Landolt on the "Refraction and Accommodation of the Eye," translated by Culver. Gowers' "Medical Ophthalmoscopy."

CLINICAL INSTRUCTION ON DISEASE IN CHILDREN.

LECTURERS—JAMES CARMICHAEL, M.D., JOHN PLAYFAIR, M.B.

Two Courses, each of three months' duration, will be conducted annually, one during the Winter Session, and one during the Summer Session.

Each Course will include Clinical Instruction in the wards of the Royal Hospital for Sick Children, and in the University Clinical Medicine Theatre of the Royal Infirmary.

For the ward visits, the class will be divided into sections not exceeding thirty in number, and each section will attend the ward visits on at least one day of each week. The whole class will meet once in each week in the Lecture Theatre for clinical instruction.

COMPARATIVE EMBRYOLOGY.

LECTURER—MR GEORGE BROOK.

Winter Session.

The Course is intended to assist Students in their preparation for the Second B.Sc. Examination in Zoology, and will in future consist of fifty meetings, which will be devoted in part to Lectures and in part to Practical Work and Demonstrations.

PART 1.—Sketch of the development of Amphioxus, the Frog, and the Chick, as a basis for Embryological Enquiry.

PART 2.—The principal facts in the development and life-history of the following groups (as illustrated by types):—Porifera, Cœlenterata, Platyelminthes, Rotifera, Mollusca, Polyzoa, Brachiopoda, Chætopoda, Discophora, Gephyrea, Tracheata (including Peripatus), Crustacea, Echinodermata, Enteropneusta, Urochordata.

PART 3.—Vertebrate Organogeny;—including an outline of the development of the fœtal appendages of Birds, Reptiles, and Mammals; the epidermis and its derivatives; the nervous system and sense organs; the skeletal, vascular, muscular, and urogenital systems; the alimentary canal and its appendages.

The Laboratory work will include a practical study of the development of the Chick, and instruction in the modern methods of research.

RESEARCH WORK.

The Laboratory is open daily in the Summer as well as in the Winter Session for the prosecution of Embryological Research.

Graduation in Medicine and Surgery.

Three Degrees in Medicine and Surgery are conferred by the University of Edinburgh, viz., Bachelor of Medicine (M.B.), Master in Surgery (C.M.), and Doctor of Medicine (M.D.) The Degree of Master in Surgery is not conferred on any person who does not at the same time obtain the Degree of Bachelor of Medicine.

These Degrees admit to the General Council of the University, and to the Medical Register. They qualify for Practice throughout Her Majesty's dominions, and for admission to the Military, Naval, and other Public Medical Services in the United Kingdom.

All Candidates for these Degrees must give evidence of having obtained a satisfactory General Education.

Statutes of the University relative to the Preliminary Examination in General Education.

I. The preliminary branches of extra-professional education are English, Latin, Arithmetic, the Elements of Mathematics, and the Elements of Mechanics; and the proficiency of Students in these branches is ascertained by examination, prior to the commencement of their medical study (pp. 363 and 364).

II. No candidate is admitted to a professional examination who has not passed a satisfactory examination on at least two of the following subjects (in addition to the subjects mentioned above):—Greek, French, German, Higher Mathematics, Natural Philosophy, Logic, Moral Philosophy; and the examination on these latter subjects also takes place before the candidate has entered on his Medical Curriculum (pp. 364 and 365; for the additional subjects required for the Degree of M.D., see p. 360)

III. A Degree in Arts (not being an Honorary Degree) in any one of the Universities of England, Scotland, or Ireland, or in any Colonial or Foreign University, specially recognised for this purpose by the University Court, exempts from all preliminary examination; and an Examination in Arts by any corporate body, whose examination has been recognised as qualifying for

entrance on medical study by resolution of the General Medical Council of the United Kingdom, provided the said examination by the said corporate body shall be also approved by the University Court, shall exempt, *pro tanto*, from preliminary examination in Arts, on the subjects comprised in the said examination of the said corporate body. (See pp. 366, 367.)

STATUTES OF THE UNIVERSITY RELATIVE TO PROFESSIONAL EDUCATION AND EXAMINATION.

IV. No one is admitted to the DEGREES of BACHELOR of MEDICINE and MASTER in SURGERY who has not been engaged in Medical and Surgical study for four years—the Medical Session of each year, or *Annus Medicus*, being constituted by at least two courses of not less than one hundred lectures each, or by one such course, and two courses of not less than fifty lectures each; with the exception of the Clinical Courses, in which lectures are to be given at least twice a week during the prescribed periods.

V. Every candidate for the Degrees of M.B. and C.M. must give sufficient evidence by certificates—[1]

1. That he has studied each of the following departments of Medical Science, viz.,

ANATOMY, ...	During Courses including not less than One Hundred Lectures.
CHEMISTRY, ...	
MATERIA MEDICA, ...	
INSTITUTES OF MEDICINE OR PHYSIOLOGY,	
PRACTICE OF MEDICINE, . . .	
SURGERY, ...	
MIDWIFERY, and the DISEASES peculiar to WOMEN and CHILDREN; two Courses of Midwifery, of Three Months each, being reckoned equivalent to a Six Months' Course, provided different departments of Obstetric Medicine be taught in each of the Courses, . .	
GENERAL PATHOLOGY, or in Schools where there is no such Course, a Three Months' Course of Lectures on Morbid Anatomy, together with a Supplemental Course of Practice of Medicine or Clinical Medicine,	

[1] No Course of Lectures will be allowed to qualify unless the Lecturer certifies that it has embraced at least 100 lectures or 50 lectures, in conformity with the requirements of this section. Three Months' courses on Materia Medica, Pathology, and Midwifery do not qualify.

PRACTICAL ANATOMY, .	A Course of the same duration as those of not less than One Hundred Lectures above prescribed.[1]
PRACTICAL CHEMISTRY, .	Three Months.
CLINICAL MEDICINE, .	Courses of the same duration, as those of not less than One Hundred Lectures above prescribed, or Two Courses of Three Months, Lectures being given at least twice a week.
CLINICAL SURGERY,[2] .	
MEDICAL JURISPRUDENCE, . .	During Courses including not less than Fifty Lectures.
BOTANY, ...	
NATURAL HISTORY, including ZOOLOGY,	

2. That he has attended for at least two years the Medical and Surgical Practice of a General Hospital which accommodates not fewer than eighty patients, and possesses a distinct staff of Physicians and Surgeons.

3. That he has attended during a Course of not less than fifty hours' instruction the Class of Practical Materia Medica and Pharmacy in the University of Edinburgh, or a similar class conducted in a University or recognised School of Medicine, or a similar Class conducted at the Laboratory of an Hospital or Dispensary, or elsewhere, by a Teacher recognised by the University Court under Section VI. Subsection (4); or, that he has been engaged by apprenticeship,[3] for not less than two years, with a Registered Medical Practitioner, or a Member of the Pharmaceutical Society of Great Britain, or a Member of the Pharmaceutical Society of Ireland, or a Pharmaceutical Chemist, or Chemist and Druggist, registered under the provisions of the "Act for regulating the qualifications of Pharmaceutical Chemists, 1852," "The Pharmacy Act, 1868," or "The Pharmacy Act (Ireland), 1875," in the *bona fide* compounding and dispensing of Drugs, and the preparation of their officinal and other Preparations under his superintendence.

4. That he has attended, for at least six months, by apprenticeship or otherwise, the *out-practice* of an Hospital, or the practice of a Dispensary, Physician, Surgeon, or Member of the London or Dublin Society of Apothecaries.[3]

5. That he has attended at least twelve cases of labour under the superintendence of a registered Medical Practitioner; or that he has

[1] Certificates of attendance on Practical Anatomy must express not only the number of months engaged in dissection, but the names of the parts dissected, and the degree of care with which the dissections have been made. Students are recommended not to appear for examination in Anatomy, with a view to a Degree, until they have dissected the human body at least once.

[2] The Faculty of Medicine recommend that Medical Students do not attend Clinical Surgery during their first six months' attendance on Clinical Medicine.

[3] Apprenticeship, Dispensary or Hospital Practice, Practical Midwifery, and Vaccination are not reckoned as *Classes* in making up an *Annus Medicus*.—See Regulation as to Vaccination at p. 372.

attended six such cases, and also has attended for at least three months the practice of a Midwifery Hospital in which practical instruction is regularly given.[1]

6. That he has attended, during courses of not less than fifty hours' instruction, Classes of Practical Physiology and Practical Pathology in the University of Edinburgh, or in a University or School of Medicine recognised by Subsections (2) and (4) of Section VI. of Ordinance No. 8, Edinburgh No. 3, or upon Classes thereof, conducted by a Teacher recognised by the University Court under the said Subsection (4).

VI. The studies of candidates for the Degrees of Bachelor of Medicine and Master in Surgery are subject to the following Regulations :—

1. One of the four years of Medical and Surgical study, required by Section IV., must be in the University of Edinburgh.

2. Another of such four years of Medical and Surgical study must be either in the University of Edinburgh, or in some other University entitled to give the Degree of Doctor of Medicine.

3. Attendance during at least six winter months on the Medical or Surgical Practice of a General Hospital, which accommodates at least eighty patients, and, during the same period, on a course of Practical Anatomy, may be reckoned as one of such four years, and to that extent shall be held equivalent to one year's attendance on Courses of Lectures as above prescribed.

4. One year's attendance on the Lectures of Teachers of Medicine in the Hospital Schools of London (including the Professors in the Faculty of Science, in subjects required for graduation, in King's College and University College, London), or in the School of the College of Surgeons in Dublin, or of such Teachers of Medicine in Edinburgh, or elsewhere, as shall from time to time be recognised by the University Court,[2] may be reckoned as one of such four years, and to that extent shall be held as attendance on Courses of Lectures as above prescribed.

5. Candidates may, to the extent of Four of the Departments of Medical Study required by Section V., Subsection 1, attend in such year or years of their Medical and Surgical studies, as may be most convenient to them, the Lectures of the Teachers of Medicine specified in the foregoing Subsection 4.

[Thus, Students of Medicine in the London Schools and in the School of the College of Surgeons in Dublin can obtain there two *Anni Medici* out of the four required for the Edinburgh Degrees in Medicine. Courses of Lectures in these Schools, and the Courses of the Medical Teachers and of the Science Teachers in King's College and in University College, London, in the Subjects of Graduation, are regarded as

[1] See Footnote 3, p. 355.
[2] See pp. 375-378.

equivalent to Lectures on the corresponding subjects in this University, except Materia Medica and Midwifery, which, when only three months' Courses, are not received as equivalent. One *Annus Medicus* may be constituted by attendance on Practical Anatomy and Hospital Practice during the Winter Session. Another *Annus Medicus* by attending either, (*a*), full Winter Courses on any two of the following subjects: Anatomy, Physiology, Chemistry, Pathology, Surgery, Medicine, Clinical Surgery, Clinical Medicine; or (*b*), on one such Course and two three months' Courses on any of the following subjects: Botany, Practical Chemistry, Natural History, Medical Jurisprudence. If the Student selects the arrangement prescribed in (*a*), attendance on a third Course, although unnecessary to constitute an *Annus*, will also be accepted. The other subjects, and the additional Courses, not given in London or Dublin, necessary for the degrees of the University, require to be attended at this University.

In Provincial Schools, where there are no Lecturers recognised by the University Court, a Candidate can have only One *Annus Medicus*, and this is constituted by attendance on a Qualified Hospital along with a course of Practical Anatomy, but in a Provincial School where there are two or more Lecturers recognised by this University, a Second *Annus Medicus* may be made by attendance on at least two six months', or one six months' and two three months', recognised Courses.

6. All candidates not Students of the University, availing themselves of the permission to attend the Lectures of Extra-Academical Teachers in Edinburgh, must, at the commencement of each year of such attendance, enrol their names in a book to be kept by the University for that purpose, paying a Fee of the same amount as the Matriculation Fee paid by Students of the University, and having, in respect of such payment, a right to the use of the Library of the University.

7. The Fee for attendance on the Lectures of an Extra-Academical Teacher in Edinburgh, with a view to Graduation, must be of the same amount as that exigible by Medical Professors in the University.

[*The Fee must be paid at the commencement of the Course.*]

8. No Teacher is recognised who is at the same time a Teacher of more than one of the prescribed branches of study, except in those cases where Professors in the University are at liberty to teach two branches.

9. It is not necessary for any Teacher, attendance on whose Lectures was recognised before 1861 for the purposes of Graduation in the University, to obtain a new recognition from the University Court; and attendance on the Lectures of every such Teacher will continue to be recognised as heretofore.

10. It is in the power of the University Court, if they shall see cause, at any time to withdraw or suspend the recognition of any Teacher or Teachers.

VII. Every Candidate must deliver, before the 31st day of March of the year in which he proposes to Graduate, to the Dean of the Faculty of Medicine—

1. A declaration, in his own handwriting, that he has completed his twenty-first year, [or that he will have completed it on or before the day of Graduation,] and that he will not be, on the day of Graduation, under articles of apprenticeship to any Surgeon or other master. (This declaration, along with a statement of studies, is appended to the Schedule for the Final Examination, and must be signed before the Schedule is given in.)

2. A statement of his studies, as well in Literature and Philosophy as in Medicine, accompanied with proper certificates.

VIII. Each candidate is examined, both in writing and *viva voce—Firstly*, on Chemistry, Botany, and Natural History; *Secondly*, on Anatomy, Institutes of Medicine, Materia Medica, [including Practical Pharmacy and Prescribing], and Pathology; *Thirdly*, on Surgery, Practice of Medicine, Midwifery, and Medical Jurisprudence; *Fourthly*, Clinically on Medicine and on Surgery in an Hospital. The examinations on Anatomy, Chemistry, Institutes of Medicine, Botany, Natural History [Materia Medica and Pathology] are conducted, as far as possible, by demonstrations of objects placed before the candidates.

IX. Students who profess themselves ready to submit to an examination in the first division of these subjects may be admitted to examination therein at the first period of examination after they have completed their attendance on the necessary classes: provided always that it shall be lawful for students to proceed to examination in the said subjects under one or more of the following subdivisions, namely—(*a*) Botany and Natural History, (*b*) Chemistry (including Practical Chemistry), (*c*) Botany and Chemistry (including Practical Chemistry), or (*d*) Natural History and Chemistry (including Practical Chemistry), at the first period of examination after they have completed attendance on the relative classes; and to proceed to examination in the remaining subject or subjects at a subsequent period of examination.

X. Students who have passed their examination on the first

division of these subjects, may be admitted to examination on the second division at the end of their third year.

XI. The examination on the third and fourth divisions cannot take place until the candidate has completed his fourth *Annus Medicus.*

XII. Candidates may, if they choose, be admitted to examination on the first two of these divisions at the end of their third year, or to the four examinations at the end of their fourth year.

[Thus, Candidates for the First Professional Examination, after they have completed attendance on the necessary Classes, may appear for Examination in all the subjects, or they may appear for Examination in one or more of the separate sub-divisions mentioned in Section IX. ; for the Second Professional Examination attendance for three complete *Anni Medici* is required ; and for the Final Professional Examination, four complete *Anni Medici* are required. Qualifying courses must have been attended on all the subjects of each division or sub-division of Examination previously to the Candidate being admitted to examination in that division.]

XIII. If any candidate at these examinations be found unqualified, he cannot be again admitted to examination unless he has studied, during another year, two of the prescribed subjects,[1] either in the University, or in some other School of Medicine.

XIV. After the candidate has satisfied the Medical Examiners, the Dean will lay the proceedings before the Senatus Academicus, by whose authority the candidate will be admitted on the first day of August, or, if that day be Sunday, then on the following day, to the Degrees of Bachelor of Medicine and of Master in Surgery.

XV. The Senatus Academicus, on the day here appointed, will assemble at ten o'clock A.M., for the purpose of conferring Degrees ; and no candidate, unless a sufficient reason be assigned, shall absent himself, on pain of being refused his Degree for that year.

XVI. Candidates for Graduation are required to produce evi-

[1] Satisfactory Certificates must be produced as evidence of such study.

dence of their having conformed to the Regulations which were in force at the time they commenced their Medical Studies.

XVII. The Degree of DOCTOR OF MEDICINE may be conferred on any candidate who has obtained the Degrees of Bachelor of Medicine and Master in Surgery, and is of the age of twenty-four years, and produced a certificate of having been engaged subsequently to his having received the Degrees of Bachelor of Medicine and Master in Surgery, for at least two years in attendance on an Hospital, or in the Military or Naval Medical Services, or in Medical and Surgical Practice:

Provided always that the Degree of Doctor of Medicine shall not be conferred on any person, unless he be a Graduate in Arts of one of the Universities of England, Scotland, or Ireland, or of such other Universities as are above specified [Section III.], or unless he shall, before or at the time of his obtaining the Degrees of Bachelor of Medicine and Master in Surgery, or thereafter, have passed a satisfactory examination on *three* of the subjects mentioned in Section II. of the Statutes relative to Preliminary Examination. Two of these must be Greek, and either Logic or Moral Philosophy, and the third must be one of the following subjects at the option of the Candidate—namely, French, German, Higher Mathematics, and Natural Philosophy.

And provided also that the candidate for the Degree of Doctor of Medicine shall submit to the Faculty of Medicine a Thesis, certified by him to have been composed by himself, and which shall be approved by the Faculty, on any branch of knowledge comprised in the professional examinations for the Degrees of Bachelor of Medicine and Master in Surgery, which he may have made a subject of study after having received those Degrees. The Candidate must lodge his Thesis with the Dean on or before 30th April of the year in which he proposes to graduate. No Thesis will be approved by the Medical Faculty which does not contain either the results of original observations in practical Medicine, Surgery, Midwifery, or in some of the sciences embraced in the curriculum for the Bachelor's and Master's Degrees; or else a full digest and critical exposition of the

opinions and researches of others on the subject selected by the Candidate, accompanied by precise references to the publications quoted, so that due verification may be facilitated.[1]

Candidates, settled for a period of years in foreign parts, who have complied with all the regulations for the Degree of M.D., (under the new Statutes), but who cannot appear personally to receive the Degree, may, on satisfying the Senatus to that effect, by production of sufficient official testimonials, have the Degree conferred on them in absence.

XVIII. The Medical Examiners for all candidates for Graduation in Medicine are the Professors in the Faculty of Medicine, along with the thirteen non-professorial Examiners appointed annually by the University Court.

XIX. The provisions of these Statutes came into operation on the 4th of February 1861.

XX. Persons who began their medical studies before the 4th of February 1861, are entitled to graduate under the system in force before or after that date, according as they may comply with the regulations in force in the University before or after that date.

PRELIMINARY EXAMINATION IN GENERAL EDUCATION.

The Preliminary Examinations in General Education are held in the Examination Hall in the University.[2]

All Candidates are required to enter their names *in full* in a book, kept for the purpose at the Office of the Faculty of Medicine, University New Buildings, and at the same time to mention the subject or subjects in which they offer themselves

[1] Candidates are required to write their Theses on faint lined paper, 11 in. by 8½ in. with margins 1½ in. at each side. The Thesis is to be written on one side of each leaf only.

[2] A Local Centre has been established at the University College of North Wales, Bangor, where examinations in the Preliminary Subjects will be held on the same days and hours as in Edinburgh. An additional fee of 5s. is payable by each Student undergoing examination at Bangor. This fee admits to examination in March and October in any one year, and is payable to the Registrar at Bangor on or before 1st October or 23rd February for the examinations in October and March respectively.

for Examination. They are also required to state whether they have before appeared for any Preliminary Examinations at this University.

Students Matriculated for the academic year in which the Examinations take place (*1st October to 1st October*), and who have entered their names at the time required by the Regulations, will be admitted to the Examination without payment of the special fee, but they are required to present their Matriculation Tickets at the entrance to the Examination Hall. Matriculation for 1891-92 will begin on 1st October, and Candidates may Matriculate up to the date of Examination, provided they have entered their names for the Examination at the time stated. Non-Matriculated Students pay a Fee of Ten Shillings each, and are admitted on showing their Receipts at the entrance to the Examination Hall. Those who pay the Fee in March will be admitted to the Examination in October without farther payment, on showing their tickets of admission. Payment in October does not exempt from payment in March. See dates of entering for the Examinations (p. 373).

Any Candidate who cannot appear personally at the time fixed to enter his name and pay the fee, can, on application to the Clerk at the Faculty of Medicine Office, University New Buildings, obtain a schedule, which he should fill up, and, in the case of no fee being payable, return to him. When a fee is payable, the schedule should be transmitted to the *Clerk to the University*, along with a *crossed Post Office Order* or *Postal Order* for the Fee.

I. In conformity with Section I. of the Statutes (see p. 353) examinations on the Preliminary Branches of Extra-Professional Education will take place on Tuesday, Wednesday, Thursday, and Friday, the 6th, 7th, 8th, and 9th October 1891; and on Tuesday, Wednesday, Thursday, and Friday, the 1st, 2nd, 3rd, and 4th March 1892.

Examination on Tuesdays.—Arithmetic, 9 to 11 A.M.; Mathematics (Geometry, Algebra), 11.30 A.M. to 1.30 P.M.; Higher Mathematics, 2 to 4 P.M.

Examination on Wednesdays.—English, 9 to 11 A.M.; Natural Philosophy, 11.30 A.M. to 1.30 P.M.; Mechanics, 2 to 4 P.M.

Examination on Thursdays.—Latin, 9 to 11 A.M.; Logic, 11.30 A.M. to 1.30 P.M.; Moral Philosophy, 2 to 4 P.M.

Examination on Fridays.—Greek, 9 to 11 A.M.; French, 11.30 A.M. to 1.30 P.M.; German, 2 to 4 P.M.

SUBJECTS OF EXAMINATION FROM OCTOBER 1891 TO MARCH 1893,[1] INCLUSIVELY.

1. *English.*—The Examination will include:—(1.) Writing a passage of English from dictation; (2.) English Composition, with the correction of sentences of bad English; (3.) Questions in English Grammar, with analysis of sentences and the derivation and definition of some common English words, special regard being had to discrimination of synonyms (Davidson's "*English Words Explained*" recommended); (4.) Questions in Geography and History, especially in the Geography and History of the British Islands and India, and the History of English Literature. Exceptionally bad answers to the History and Geography Questions may cause the rejection of a Candidate in English. Candidates who have passed a qualifying Examination either in English (including Grammar, &c.) only, or in History and Geography only, will be allowed to take *separately* the portions in which they have not qualified, provided they give their paper to the Examiner at the end of half of the prescribed time.
2. *Latin.*—For October 1891 and March 1892, Cicero, *De Amicitia.* For October 1892 and March 1893, Livy, Book XXI. An easy passage will be set from a Latin prose author not prescribed; and a single passage of English (translated from a Latin author) to be re-translated into Latin—the more difficult Latin words being given.
3. *Arithmetic.*—The Common Rules, including Vulgar and Decimal Fractions.
4. *Elements of Mathematics.*—Geometry, Euclid, Books I., II., and III., or Wilson's *Elementary Geometry*, Books I., II., III., or Books I., II., III. of the Text Book issued by the Association for the Improvement of Geometrical Teaching (Parts I. and II.). The Elementary Rules of Algebra, including Simple Equations. A knowledge of Geometry alone or of Algebra alone will not be sufficient. Candidates who have passed a qualifying Examination in Geometry only, or in Algebra only,

[1] The Books, &c., prescribed for 1892-93 are subject to changes which the Universities Commissioners may make by Ordinance.

will be allowed to take *separately* the subject in which they have not qualified.

5. *Elements of Dynamics* (*Mechanics*).—Elementary Kinematics, Statics, including the Simple Machines, Kinetics, and Hydrostatics. Text Book: Blaikie's *Elements of Dynamics* (excluding the appendix).

II. In conformity with Section II. of the said Statutes (see p. 353), which enacts that no candidate shall be admitted to a professional examination who has not passed a satisfactory examination on at least *two* optional subjects (in addition to the subjects mentioned above), examinations will also take place on the following subjects:—

1. *Greek.*—For October 1891 and March 1892, Xenophon, *Memorabilia*, Book II. For October 1892 and March 1893, Xenophon, *Cyropaedia*, Book VII. Some easy sentences of English will be set to be translated into Greek.
2. *French.*—For October 1891 and March 1892 inclusively, E. de Bonnechose, *Lazare Hoche*. An easy passage in English will be given for translation into French
3. *German.*—For October 1891 and March 1892 inclusively, Hachette's Reader, "Lust und Lehre." An easy passage in English will be given for translation into German.
4. *Higher Mathematics.*—Geometry, Euclid, Books I.–IV., Book VI., and the Propositions of Book XI., usually given in the modern editions, or Wilson's *Elementary Geometry*, Books I., II., III., V., and Wilson's *Solid Geometry and Conic Sections*, Book IV., Section I.—Algebra, Elementary Trigonometry, and Conic Sections. Text Book for Conic Sections, Wilson's *Solid Geometry and Conic Sections*, Book V. The use of the above text books is not imperative; they are cited merely to indicate the scope of the examination.
5. *Natural Philosophy.* — (1.) Properties of matter—Elasticity, Density, Porosity, Capillarity, &c. (2.) Elementary phenomena of Sound, Light, Heat, Electricity and Magnetism. Text-Books recommended — Balfour Stewart's *Elementary Physics*, and Tait's *Properties of Matter*.
6. *Logic.*—For October 1891 to March 1893. *Either* Fowler's *Deductive Logic*, "Introduction," Parts I., II. (chap. i.-iv. and vii., viii.), III. (chap. i., ii., iii., and viii.), Davidson's *Logic of Definition* (chap. i., ii., iii.), and Fowler's *Inductive Logic*, chap. i., ii. (§§ 2 and 3), iii., iv.; *or* Professor Campbell Fraser's *Selections from Berkeley*, Editor's "Historical Introduction," Author's "Introduction to *the Principles of Human Knowledge*," and "Dialogue on Divine Visual

Language," along with the Prefatory Note, pp. 159-166 (4th edition).

7. *Moral Philosophy.*—For October 1891 to March 1893, (1.) Bain's *Mental and Moral Science*, Book III. ("*The Emotions*"), chap. i., iv., v., vii., viii.; (2.) Professor Calderwood's *Handbook of Moral Philosophy*, "Introduction," "Psychology of Ethics," Parts I. (chap. i.-vi.) and IV., together with "Sketch of the History of Moral Philosophy," Socrates to Kant.

In answering the questions in Arithmetic, Mathematics, and Dynamics (Mechanics), the steps of the reasoning, as well as the final result, must be exhibited.

A Degree in Arts in any one of the Universities of the United Kingdom, or in one of the Colonial Universities, or Universities of British India, exempts from the Preliminary Examination.

The Preliminary Examinations in General Education of the following Bodies are recognised *pro tanto;* that is to say, they exempt from examination on the subjects comprised in them, in so far as the examinations are of the same extent as those required by this University. Any subjects required by the Regulations, and not included in these examinations, or not carried out to the requisite extent, must be passed at the University.

As regards Latin, Greek, French, and German, mere translation is not sufficient. There must be translation of an English passage into each of the languages taken up by the Candidates.

Mathematics must in all cases be equivalent in Geometry to at least the first three Books of Euclid.

As regards Optional Subjects, each of them must be certified; and in so far as they are of the nature and extent required by the University, they will be allowed to qualify.

No Examination of any other Board will be received on any subjects in which Candidates have been remitted at this University.

In all cases Candidates must produce Certificates of having passed such Examinations, with an official notice of the subjects *in which they have passed, and of the* extent *of the Examination in each subject.*

In all cases where the Certificates have been granted on the aggregate of the marks obtained by the Candidates the Official Certificate of the percentages in each subject must be produced.

UNIVERSITIES WHOSE DEGREES IN ARTS EXEMPT FROM THE PRELIMINARY EXAMINATION, AND UNIVERSITIES AND OTHER BODIES WHOSE EXAMINATIONS IN GENERAL EDUCATION ARE RECOGNISED *pro tanto*.

UNIVERSITIES OF THE UNITED KINGDOM.

OXFORD.—Examination for a Degree in Arts; Responsions; Moderations; Local Examinations (Senior), Certificate to include Latin, and Mathematics,—Oxford and Cambridge Schools' Examination.

CAMBRIDGE.—Examination for a Degree in Arts; Previous Examination; Local Examinations (Senior), Certificate to include Latin, and Mathematics,—Oxford and Cambridge Schools' Examination.

DURHAM.—Examination for a Degree in Arts; Registration Examination for Medical Students; Local Examinations (Senior), Certificate to include Latin and Mathematics.

LONDON.—Examination for a Degree in Arts or Science; Matriculation Examination.

EDINBURGH, GLASGOW, ABERDEEN, AND ST ANDREWS.—Examination for a Degree in Arts; Preliminary Examination for Graduation in Medicine and Surgery; Examination of Candidates for Senior Local Examinations Certificates and Senior and Junior of Edinburgh.

DUBLIN.—Examination for a Degree in Arts; Public Entrance Examination.

ROYAL UNIVERSITY OF IRELAND.—Examination for a Degree in Arts; Entrance Examinations; Examination for Diploma of Licentiate in Arts; Previous Examination for B.A. Degree.

VICTORIA UNIVERSITY.—Examination for a Degree in Arts; the Preliminary Examination (to include Latin and Mechanics); the Entrance Examination in Arts.

OTHER BODIES NAMED IN SCHEDULE (A) TO THE MEDICAL ACT.

THE SOCIETY OF APOTHECARIES OF LONDON.—Examination in Arts.

ROYAL COLLEGE OF PHYSICIANS (EDINBURGH), and ROYAL COLLEGE OF SURGEONS (EDINBURGH).—Preliminary Examination in General Education, conducted by a Board appointed by these Colleges combined.

FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—Preliminary Examination in General Education.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—Preliminary Examination, Certificate to include Mathematics.

APOTHECARIES' HALL OF IRELAND.—Preliminary Examination in General Education.

THE EXAMINATIONS FOR COMMISSIONS AND APPOINTMENTS IN THE NAVAL, MILITARY, AND CIVIL SERVICES IN THE UNITED KINGDOM.—Certificate to include all the Subjects required by the General Medical Council.

ROYAL COLLEGE OF PRECEPTORS.—Examination for a First-class Certificate only.—Exemption from further examination will be granted only in those subjects in which the Candidate is certified to have gained at least 40 per cent. of the attainable marks.

Leaving Certificates of the Scottish Education Department.

INDIAN, COLONIAL, AND FOREIGN UNIVERSITIES AND COLLEGES.

UNIVERSITY OF (1) CALCUTTA, (2) MADRAS, and (3) BOMBAY.—Entrance Examination, Certificate to include Latin.

M'GILL UNIVERSITY, and Matriculation Examination, BISHOP'S COLLEGE, MONTREAL.—UNIVERSITIES OF (1) TORONTO, (2) TRINITY COLLEGE, TORONTO, (3) QUEEN'S COLLEGE, KINGSTON, (4) VICTORIA COLLEGE, UPPER CANADA, (5) FREDERICTON, NEW BRUNSWICK, (6) MANITOBA.—Previous Examination.

MOUNT ALLISON COLLEGE, SACKVILLE, NEW BRUNSWICK.—Degrees in Arts.

UNIVERSITY OF HALIFAX.—Matriculation Examination.

UNIVERSITY OF KING'S COLLEGE, NOVA SCOTIA.—Matriculation Examination; Responsions.

UNIVERSITY OF MELBOURNE.—Matriculation Examination, Certificate to include all the Subjects required by the General Medical Council.

UNIVERSITY OF SYDNEY.—Matriculation Examination. Examination after one year's study in Arts.

UNIVERSITY OF THE CAPE OF GOOD HOPE.—Matriculation Examination.

UNIVERSITY OF ADELAIDE.—Matriculation Examination.

SOUTH AUSTRALIA, SOUTH AUSTRALIAN INSTITUTE, ADELAIDE.—Preliminary General Examination, First-Class Certificate.

CODRINGTON COLLEGE (BARBADOS).—(1) English Certificate for Students of two years' standing, specifying the Subjects of Examination; (2) Latin Certificate, or "Testamur."

TASMANIAN COUNCIL OF EDUCATION.—Examination for the Degree of Associate of Arts, Certificate to include Latin and Mathematics.

UNIVERSITY OF NEW ZEALAND.—Matriculation Examination.

OTAGO UNIVERSITY.—Preliminary Examination.

CHRIST'S COLLEGE, CANTERBURY, NEW ZEALAND.—Voluntary Examinations, Certificate to include all the subjects required by the General Medical Council.

GERMANY.—Gymnasial Abiturienten-Examen, and corresponding Entrance Examination to other Continental Universities.

RUSSIA.—Examination for Certificates of Maturity, granted before entrance to the Universities.

REGISTRATION OF STUDENTS OF MEDICINE.

According to the Regulations of the General Medical Council of the United Kingdom, every Student must, at the commencement of his medical studies, have his name placed on the Register of Students kept by the General Medical Council. No Student can be registered who has not passed an Examination recognised by the General Medical Council in English, Latin, Arithmetic, Euclid and Algebra, and Elements of Mechanics, along with one optional subject, as French, or German, or Greek, or Italian, or any other modern language, or Logic, or Botany, or Zoology, or Elementary Chemistry. The commencement of study in Medicine is reckoned from the date of registration, and Students are recommended to register with the Branch Registrar for Scotland (Mr James Robertson, 1 George Square, Edinburgh) as soon as they have passed in the required subjects and entered upon the Study of Medicine. Forms for Registration may be had on application at the Office of the Faculty of Medicine, University New Buildings. The Preliminary Examinations recognised by the General Medical Council are only recognised by this University *pro tanto*. For Subjects and extent of Examination required by this University, see pp. 353 and 363.

A Student who has not been able to register, and who begins his Studies in Medicine in Summer, may matriculate, and attend the classes of Botany and Natural History. He must, however, pass a sufficient preliminary examination in October, so as to entitle him to be registered at the beginning of the Winter Session.

No one can be placed on the Register as a practitioner who has not been a registered Student for at least forty-five months.

MATRICULATION, &c., OF STUDENTS.

All Students are required to take their tickets for each course of Lectures, which they propose to attend, not later than fifteen days after the commencement of the course, and they must matriculate before they can be enrolled in any of the Classes in the University. Matriculation consists in paying during each year of study an entrance fee of £1 to the University, and in inscribing the name in the Students' Album. The matriculation fee for a Summer Session is 10s.

All Candidates for Degrees, not Students of the University, availing themselves of the permission to attend the Classes of Extra-Academical Teachers in Edinburgh, must conform to Ordinance vi. 6, p. 356.

Every Candidate for Degrees in Medicine and Surgery must matriculate at the University for the year in which he appears for Professional Examination or for Graduation. He should intimate his intention to graduate, and pay the Fee of £1 for Registration as a member of the University General Council (if not already a member) at least ten days before the date of Graduation.

REGULATIONS AS TO CLASS EXAMINATIONS.

With a view to promote the Educational interests of the students during the time they are occupied with the respective subjects in the Classes, the Senatus recommend :—

1. That there should be at least two Special Class-Examinations in the Classes in the Faculty of Medicine during each Session, conducted by means of questions and written answers, without aid from books or notes.

2. That in the event of a student gaining 75 per cent. or more of the available marks in any department, he shall obtain a Certificate in the First Class of Honours.

3. That in the event of a student gaining 50 per cent. or more, but less than 75 per cent., of the available marks in any department, he shall receive a Certificate in the Second Class of Honours.

University Bronze Medals are also given for Competitive Class Examinations.

CERTIFICATES OF ATTENDANCE ON CLASSES IN THE FACULTY OF MEDICINE.

The Senatus Academicus have resolved that the Certificates of Attendance to be granted to students in the Faculty of Medicine shall be regulated in the following manner :—

Each Professor shall ascertain the presence of his pupils at least twenty-six times in a course of six months' duration, and thirteen times in a course of three months' duration.

Those who have been absent twelve or more times in a six months' course, or six or more times in a three months' course, shall not be entitled to any Certificate.

The following is the form of Certificate which must be adopted in all cases :—

"I certify that Mr attended my Course of Lectures on during the Session ; that attendance was ascertained times, and that Mr was present on of these occasions."

Exceptions will be admitted in the case of those who may be absent from sickness or other unavoidable causes, the particulars of which must be stated to the Professor in writing, accompanied with certificates. All excuses for non-attendance must be given in immediately upon the student returning to his class. But if any student shall have been absent for six weeks or upwards, in a Course of six months, or for three weeks in a Course of three months (whatever the cause of absence may be), his

case must be transmitted to the Dean of the Faculty for the decision of the Faculty.

Whenever the student's cause for absence shall be admitted by the Professor or by the Faculty, the Certificate shall bear that he "attended," and shall state the amount of the irregularity and the nature of the excuse.

FIRST PROFESSIONAL EXAMINATION.

The Faculty of Medicine have resolved that the written and oral examinations on Chemistry, Botany, and Natural History shall be restricted in the following manner :—

1. *Chemistry.*—Classification of Elements. General Laws of Chemical Combination and Action, as illustrated in the simpler compounds of the more commonly occurring elements.

Symbolic Notation.

Preparation and Properties of the Non-Metallic Elements and their chief Compounds.

Classification and General Properties of Acids, Bases, and Salts—Electrolysis of Salts.

Oxygen, Ozone, Oxidation, and Reduction.

Hydrogen, Water, Peroxide of Hydrogen, Chlorine, Hydrochloric Acid, Hypochlorites, Chlorates, Perchlorates, Bromine, Hydrobromic Acid, Bromates, Iodine, Hydriodic Acid, Iodates, Fluorine, Hydrofluoric Acid. Sulphur, Sulphuretted Hydrogen, Oxides of Sulphur, Sulphites, Sulphates, Thiosulphates, Chlorides of Sulphur, Chloride of Sulphuryl, Nitrogen, The Atmosphere, Oxides of Nitrogen, Nitrates, Nitrites, Ammonia, Ammonia Salts, Phosphorus, Oxides of Phosphorus, Chlorides and Oxychloride of Phosphorus, Phosphates, Phosphites, Hypophosphites, Boron, Boracic Acid, Borates, Fluoride of Boron, Silicon, Silica, Silicates, Chloride of Silicon, Fluoride of Silicon, Hydrofluosilicic Acid.

Carbon, Oxides of Carbon, Carbonates, Phosgene. Classification of Carbon Compounds. Marsh Gas and its Homologues. Chloroform. Methylic and Ethylic Alcohols and Ethers. Methylamine, Dimethylamine, Trimethylamine, Tetramethylammonium. Formic and Acetic Acids, Aldehyde, Acetone, Chloral, Olefiant Gas, Glycol, Oxalic Acid, Lactic Acid. Tartaric Acid, Citric Acid. Fats and Oils, Saponification, Glycerine. Cellulose, Sugars, Starch. Products of Distillation of Wood and of Coal. Coal-Gas, Coal-Tar. Turpentine, Camphor. Benzene, Benzoic Acid, Salicylic Acid, Oil of Bitter Almonds. Hydrocyanic Acid, Cyanides, Cyanates, Thiocyanates, Urea.

The following metals, their Oxides, Sulphides, and more important Salts. Potassium, Sodium, Magnesium, Calcium, Strontium, Barium, Aluminium, Zinc, Cadmium, Manganese, Chromium, Iron, Nickel,

Cobalt, Bismuth, Lead, Copper, Mercury, Silver, Tin, Gold, Platinum, Antimony, Arsenic.

Simple Qualitative Analysis. [*The Examination in Analysis is conducted practically.*]

2. *Botany.*—The characteristic features of the following groups and classes of the vegetable kingdom :—

Thallophyta [Schizophyta, Algæ, Fungi]; Muscineæ [Hepaticæ, Musci]; Pteridophyta [Filicineæ, Equisetineæ, Lycopodineæ]; Phanerogamæ [Gymnospermæ, Angiospermæ (Monocotyledones, Dicotyledones)].

The fundamental facts of Morphology (including Anatomy, Histology, and Development) and Physiology as they are illustrated in the life-history of the following plants :—Bacterium, Saccharomyces, Mucor, Vaucheria, Eurotium, Funaria, Aspidium, Pinus, Scilla, Helianthus, Ulmus; and the characters of plants belonging to the following natural orders of Phanerogamæ :—Coniferæ, Gramineæ, Orchideæ, Liliaceæ, Urticaceæ, Labiatæ, Compositæ, Umbelliferæ, Rosaceæ, Leguminosæ, Cruciferæ, Ranunculaceæ.

3. *Natural History.*—(*a.*) The General Principles of Biology.

(*b.*) The distinctive character of the Invertebrate groups.

(*c.*) The structure, habits, &c., of *Amœba*, *Paramœcium*, *Hydra*, *Arenicola*, *Hirudo*, *Anodon*, *Helix*, *Nephrops* or *Astacus*, and *Periplaneta*.

(*d.*) The distinctive characters of the Chordata groups.

(*e.*) A general knowledge of the orders of Sauropsida and Mammalia.

(*f.*) The structure, habits, &c., of Phallusia, Amphioxus, Myxine, *Raia*, *Clupea*, *Rana*, *Columba*, Ornithorhynchus, Macropus, *Lepus*, *Ovis*, and *Canis*.

(*g.*) The skeletons of *Gadus*, *Testudo*, *Equus*, *Felis catus*, *Balæna*, Vespertilio, and *Simia* (Orang).

(*h.*) The structure and life-history of Gregarina, Distoma, Tænia, Ascaris, Trichina, and Filaria.

(*i.*) The more important facts of the development of Hydra, Amphioxus, Scyllium, and Rana, and of the fœtal appendages of Lepus.

(*j.*) The principles of the Geographical Distribution of Animals, and the Distribution of the Mammalia.

(*k.*) The oral examination will have special reference to the forms in italics.

HONOURS AT PROFESSIONAL EXAMINATIONS.

Candidates who have displayed special merit at any of the Professional Examinations will be announced as having passed that Examination "with distinction."

Candidates who have displayed special merit at each of the three

Professional Examinations will be announced, at the time of the Graduation, as having obtained FIRST or SECOND CLASS HONOURS, according to the merit that has been displayed.

REGULATION AS TO VACCINATION.

In conformity with the desire expressed by the Local Government Board, it has been resolved that a Candidate for a Degree in Medicine must produce, at his final examination, a certificate from a Vaccine Department in an Hospital, Dispensary, or other public Institution recognised by the Local Government Board for instruction in Vaccination, to the effect that he has himself performed the operation successfully under the teacher's inspection; that he is familiar with the different stages of the vaccine vesicle, and with the method of preserving lymph, and is thoroughly informed in every necessary part of the subject.

Recognised Vaccine Departments in Edinburgh are—in the Royal Public Dispensary, 21 West Richmond Street—*Vaccinator*, Dr Husband; in the Western Dispensary, 90 Fountainbridge—*Vaccinator*, Dr J. B. Buist.

SPONSIO ACADEMICA TO BE SIGNED BY GRADUATES IN MEDICINE.

Ego Doctoratus in Arte Medica titulo jam donandus, sancte coram Deo cordium scrutatore, spondeo, me in omni grati animi officio erga Universitatem Academicam Edinburgensem ad extremum vitæ halitum perseveraturum.

Tum porro Artem Medicam caute, caste, probeque exercitaturum, et quoad potero, omnia ad ægrotorum corporum salutem conducentia cum fide procuraturum. Quæ, denique, inter medendum visa vel audita sileri conveniat, non sine gravi causa vulgaturum.

Ita præsens spondenti adsit Numen.

FEES FOR DEGREES, &c.

Examination in Botany, Chemistry, Chemical Testing, and Natural History, ...	£5 5 0
Examination in Anatomy, Institutes of Medicine, Materia Medica, Prescriptions, Pathology, ...	5 5 0
Final Examination in Surgery, Midwifery, Practice of Physic, Medical Jurisprudence, Clinical Medicine (with Prescriptions), Clinical Surgery, during last Summer Session,	10 10 0
Fee for Registration as a Member of the University General Council, ...	1 0 0
Total Fees for M.B. and C.M. Diplomas, .	£22 0 0

Additional Fee for M.D. Diploma, ...	£5	5	0
Government Stamp-Duty (for M.D. only), . . .	10	0	0
Matriculation Fee, ...	1	0	0
Total Fees for M.D. Diploma, ...	£16	5	0

In the event of the Candidate failing to pass any one of the Professional Examinations, the Fee is not returned; but he may appear at one subsequent examination without paying an extra Fee, and at any future examination on paying a Fee of £2, 12s. 6d.

Note.—Total Fees and Stamp for graduating as M.D. only, for Candidates who commenced their Medical Education before February 1861, £25.

N.B.—The above Fees include all charges for the Diplomas, and Graduates are requested to apply personally for their Diplomas at the Matriculation Office between 12 and 4 on the day of graduation. Any Graduate who cannot appear personally is required to give written authority to some person to receive and give a receipt for his Diploma.

DATES OF EXAMINATIONS, FOR PRESENTING CERTIFICATES, AND PAYING FEES FOR DEGREES,[1] &c.

The dates of the Examinations for 1891-92 have been fixed as follows, and Candidates are required to assemble in the Examination Hall at the University a quarter of an hour before the time fixed for examination.

Candidates are required to present their Certificates for Examinations at the Office of the Faculty of Medicine, University New Buildings, and to pay the fees at the Matriculation Office. No fees will be received until the Candidates have shown all the Certificates required to be produced for the Examinations for which they propose to appear.

Candidates for Degrees in Medicine and Surgery, in lodging the statement of their Courses of Study with the Dean of the Faculty, will observe that for all Courses of Lectures the Faculty will receive Certificates only as evidence of their attendance.

Preliminary Examination in General Education.

6th, 7th, 8th, and 9th October 1891; 1st, 2nd, 3rd, and 4th March 1892. Hours at pages 362 and 363.

Names to be given in and Fees paid on or before 1st October 1891, and on or before 24th February 1892.

[1] When names are not entered nor fees paid on or before the stated dates, a late entry fee of ten shillings must be paid before the Candidate can be admitted to examination. A Candidate is not held to be entered for the Examination until his Name is entered, all the necessary Certificates, &c., lodged, and the Fee paid.

First Professional Examination.

Written Examination—20th and 21st July 1891; 21st and 22nd March 1892, at 11 o'clock each day.

Practical Chemistry—22nd July 1891, and following days; and 23rd March 1892, and following days, at hours to be announced.

Names to be given in, Certificates shown, and Fees paid on or before 13th July 1891, and on or before 14th March 1892.[1]

Second Professional Examination.

Written Examination—10th and 11th July 1891; 28th and 29th March 1892, at 10 o'clock each day.

Names to be given in, Certificates shown, and Fees paid on or before 3rd July 1891, and on before 21st March 1892.[1]

Final Professional Examination.

Clinical Examinations in Surgery begin on 1st May, and in Medicine on 5th May 1891.

Written Examination—15th and 16th June 1891, at 10 o'clock each day.

Oral Examination commences 17th June.

Names to be given in, Certificates shown, and Fees paid for the Examination in 1891 on or before 22nd April 1891,[1] and for the Examination in 1892 on or before 19th April.

Theses for M.D. to be given in and Fees paid on or before 30th April 1892, and Stamp Duty to be paid on or before 15th July.[1]

Graduation.

Saturday, 1st August 1891, at 10 A.M. Candidates to assemble at 9 A.M.

Information relative to Matriculation and the Curriculum of Study, and the Subjects of Examinations for Degrees in Medicine and Surgery, and for Fellowships, Scholarships, Bursaries, Prizes, &c., &c., may be obtained on application to the Dean of the Faculty of Medicine, University New Buildings.

The fees for Matriculation, for Examinations for Degrees, and for Registration as members of the General Council of the University, are payable at the *Matriculation Office, University (Old) Buildings.* When Candidates cannot attend personally to pay the fees, they should transmit them to the *Clerk of the University* by *crossed Post Office Orders*, by *Postal Orders*, or by *Bank Drafts only*, and *not* by cheques on private accounts. When a fee is paid by a cheque on a Bank, an additional sixpence is required to be added to meet Bank exchange, unless the cheque be payable in Edinburgh or London.

[1] See footnote, p. 373.

EXTRA-ACADEMICAL TEACHERS.

Regulations of the University Court relative to Certificates of Attendance granted by Extra-Academical Teachers.

The Certificate of Attendance granted to Students by recognised Extra-Academical Teachers, should, in all cases, state the number of Lectures, or of Meetings for Practical Instruction, in the Course; the number of occasions on which attendance was ascertained; and the number of those occasions on which the Student was present. The Certificate should also state the general scope of the Course; and, in particular, in the case of *Chemistry*, that the Course included Organic as well as Inorganic Chemistry; in the case of *Midwifery*, that it included the diseases of Women and Children; and, in the case of *Practical Materia Medica*, that it included Pharmacognosy, Pharmacy, Dispensing, and the writing of Prescriptions.

LIST OF EXTRA ACADEMICAL TEACHERS, WHOSE LECTURES QUALIFY FOR GRADUATION IN THIS UNIVERSITY.

Aberystwyth.

		Date of Recognition.
J. Ainsworth Davis, M.A.	Natural History,	28 July 1886.
H. Lloyd Snape, D.Sc.	Chemistry & Practical Chemistry,	19 March 1888.

Bangor.

James J. Dobbie, D.Sc.,	Chemistry & Practical Chemistry,	30 May 1885.
Reginald W. Phillips, M.A.,	Botany,	30 May 1885.
Philip J. White, M.B.,	Natural History,	9 Dec. 1889.

Birmingham.

F. J. Allen, M.A.,	Physiology & Practical Physiology,	12 Dec. 1887.
T. W. Bridge, M.A.,	Zoology,	9 July 1883.
W. Hillhouse, B.A.,	Botany,	26 Nov. 1883.
Wm. A. Tilden, D.Sc.,	Chemistry & Practical Chemistry,	9 July 1883.
Bertram C. A. Windle, M.D.,	Anatomy,	17 Nov. 1884 29 Oct. 1888.

BRISTOL.

		Date of Recognitn.
G. Munro Smith, L.R.C.P., M.R.C.S.	Physiology & Practical Physiology,	29 Oct. 1888.

(*Certificates for two consecutive Lecture Courses required.*)

CARDIFF.

W. N. Parker,	Natural History,	28 July 1886.
Claud M. Thompson, M.A., D.Sc.,	Chemistry & Practical Chemistry,	28 July 1886.

(*Lecture Course may be divided between two consecutive Sessions.*)

DUBLIN.

A. C. Haddon, M.A.,	Natural History,	23 Jan. 1888.
Chs. R. C. Tichborne, Ph.D.,	Practical Chemistry,	28 Feb. 1881.

EDINBURGH.

A. P. Aitken, D.Sc.,	Chemistry & Practical Chemistry,	29 Oct. 1888.
J. O. Affleck, M.D.,	Practice of Physic,	8 Dec. 1879.
Byrom Bramwell, M.D.,	Practice of Physic,	18 Oct. 1880.
J. Macdonald Brown, M.B.,	Anatomy & Practical Anatomy,	18 July 1884.
Alexander Bruce, M.D.,	Pathology & Practical Pathology,	24 January 18[illegible].
Francis M. Caird, M.B., C.M.,	Surgery,	13 August 18[illegible]
Chas. W. Cathcart, M.B., C.M.,	Surgery,	17 Nov. 1884.
George Cowie,	Pract. Materia Med.	18 July 1887.
Wm. Craig, M.D.,	Materia Medica & Prac. Materia Med.	14 July 1879.
T. W. Drinkwater, Ph.D.	Chemistry, and	8 March 18[illegible]
	Practical Chemistry,	14 July 1879.
John Duncan, M.D.,	Clinical Surgery,	28 July 1886.
William Duncan,	Prac. Materia Med.,	12 April 1886.
George A. Gibson, M.D.,	Practice of Physic,	9 Dec. 1889.
J. W. B. Hodsdon, M.D.,	Surgery,	3 August 18[illegible]
Alex. James, M.D.,	Pract. of Physic,	3 August 18[illegible]
J. Falconer King and John Hunter, jointly,	Chemistry & Practical Chemistry,	17 May 1890.
W. Scott Lang, M.D.,	Surgery,	29 Oct. 1888.
H. D. Littlejohn, M.D.,	Med. Jurisprudence,	before 1861.
Rev. John Lowe,	Pract. Materia Med.	12 Oct. 1885.
Stevenson Macadam, Ph.D.,	Chemistry & Practical Chemistry,	before 1861.

EDINBRUGH—*continued.*		*Date of Recognition.*
W. Ivison Macadam,	Chemistry & Practical Chemistry,	23 July 1888.
A. N. MacAlpine, B.Sc.,	Botany,	8 March 1880.
Charles MacGillivray, M.D.,	Surgery,	22 January 1883.
Augustus A. Matheson, M.D.,	Midwifery,	15 May 1889.
Alexander G. Miller, M.D.,	Clinical Surgery,	3 August 1888.
R. Milne Murray, M.B.,	Midwifery,	13 August 1886.
J. Rymer Paterson, B.Sc.,	Pract. Chemistry,	3 August 1888.
	Chemistry,	29 Oct. 1888.
D. Nöel Paton, M.D.,	Physiology and	24 Oct. 1887.
	Prac. Physiology,	19 March 1888.
J. B. Readman, D.Sc.,	Practical Chemistry,	17 Dec. 1888.
William Russell, M.D.,	Pathology & Practical Pathology,	6 August 1887.
Johnson Symington, M.D.,	Anatomy and Practical Anatomy,	14 July 1879.
Ralph Stockman, M.D.,	Materia Medica & Prac. Materia Med.,	9 Dec. 1889.
J. Arthur Thomson, M.A.,	Natural History,	28 July 1886.
Roderick Urquhart,	Pract. Materia Med.,	12 Oct. 1885.
Alexander Wood,	Prac. Materia Med.,	24 January 1887.
John Wyllie, M.D.,	Practice of Physic,	20 Dec. 1878.
	GLASGOW.	
John Barlow, M.D.,	Physiology,	26 Nov. 1883.
	Prac. Physiology,	8 January 1890.
A. M. Buchanan, M.D.,	Anatomy and Practical Anatomy,	12 Oct. 1874.
H. E. Clark,	Anatomy and Practical Anatomy,	30 January 1884.
Joseph Coats, M.D.,	Pathology,	11 Oct. 1875.
Eben. Duncan, M.D.,	Med. Jurisprudence,	24 Oct. 1887.
James Dunlop, M.D.,	Surgery,	12 Oct. 1874.
Sampson Gemmel, M.D.,	Practice of Physic,	18 July 1881.
Wm. M'Ewen, M.D.,	Surgery,	9 July 1883.
James M. Milne, Ph.D.,	Chemistry & Practical Chemistry,	30 July 1884.
Alexander Napier, M.D.,	Materia Medica,	22 April 1889.
	LONDON.	
G. B. Howes,	Natural History,	18 July 1887.
D. H. Scott, M.A., Ph.D.,	Botany,	18 July 1887.
T. E. Thorpe, Ph.D.	Chemistry & Practical Chemistry.	9 Dec. 1889.

NOTTINGHAM.

		Date of Recognition.
Frank Clowes, D.Sc.,	Chemistry & Practical Chemistry.	9 Dec. 1889.

OXFORD.

Alfred Willson,	Pract. Materia Med.,	29 Oct. 1888.

SHEFFIELD.

W. Carlton Williams, B.Sc.,	Chemistry & Practical Chemistry,	26 Nov. 1883.

RIGHTS OF THE GRADUATES IN MEDICINE AND SURGERY OF SCOTLAND ACCORDING TO THE MEDICAL ACT.

Before the passing of the Medical Act of 1858, the Degree of Doctor of Medicine granted by the Universities of Scotland (as the possessor underwent a complete education and examination in all departments of Medicine, Surgery, and Midwifery), qualified the Graduate to practise every branch of the Medical profession throughout Scotland. One principal purpose of the Medical Act was to extend local rights of practice over the whole of Her Majesty's dominions. But according to the hitherto accepted reading of a dubious clause in the Act, no one can practise both Medicine and Surgery without possessing two distinct Diplomas—one for Medicine and another for Surgery. The Universities were thus compelled, in justice to their Graduates, to give them the additional title of Master in Surgery, not as implying any additional study or examination, but as declaring more distinctly their qualifications, and to permit Registration as regularly qualified practitioners in the whole field of their professional education. The Secretary for War some time ago issued an Order that candidates for admission into the Medical service of the Army should obtain their qualifications in Physic and Surgery from two different sources; the effect of which would have been to prevent any one University from qualifying for this purpose. The Scottish Universities' Commissioners, recognising the serious evils of such a system, followed up a remonstrance which had been offered on the part of the University of Edinburgh, and

obtained the rescinding of all restrictions in the source of qualification. Consequently, any single University in Scotland can now qualify candidates for the Military and Naval Services as well as for any other public Medical service in the country.

THOMAS R. FRASER, M.D.,
Dean of the Faculty of Medicine and Professor of Materia Medica.

DOCTORS OF MEDICINE

WHO HAVE BEEN AWARDED GOLD MEDALS FOR THEIR THESES FROM 1886 TO 1890, BOTH YEARS INCLUDED.[1]

1886.
Edward Carmichael, Scotland
William Hunter, Scotland
Allan Macfadyen, Scotland
Andrew M. Paterson, England [2]
Ralph Stockman, Scotland

1887.
George A. Atkinson, England
Alexander Bruce, Scotland
John Gibson, Orkney
William C. S. Miller, Scotland
Robert Wm. Philip, Scotland
John Stevens, Scotland

1888.
James Graham, Scotland
John Berry Haycraft, England
George Mackay, Madras

1889.
Herbert H. Ashdown, England
John W. Ballantyne, Scotland
Arthur J. M'D. Bentley, England
Kenneth M. Douglas, Scotland
Thomas A. Helme, England
Henry Alexis Thomson, Scotland
Joseph Tillie, Scotland
Herbert F. Waterhouse, England

1890.
Joseph Griffiths, Wales
Robert Muir, Scotland
George Edmund Pierez, Ceylon
W. G. A. Robertson, Scotland
Arthur Robinson, England
John David Williams, Wales

---

[1] The names of those who received Gold Medals prior to 1859 will be found in the List of Graduates in Medicine of the University of Edinburgh since its foundation, published in 1867, and the names of those who received Gold Medals from 1859 to 1889, both years included, will be found in the Historical Appendix to List of Graduates, published in 1889, pp. 128, 129.

[2] Professor of Anatomy, University College, Dundee.

DOCTORS OF MEDICINE, WITH THE TITLES OF THEIR THESES, WHO GRADUATED ON 1ST AUGUST 1890.

*** *Obtained Gold Medals for their Dissertations.*

** *Deemed worthy of competing for Gold Medals.*

* *Commended for their Dissertations.*

* William Frederick Prichard Bassett, Australia, M.B., C.M., 1880. The Climate of New South Wales, with special reference to its influence on Consumption.

* Johannes Hendrikus Meiring Beck, Cape of Good Hope, M.B., C.M. (First-Class Honours), 1879. Leaves from the Note-Book of a South African General Practitioner.

** William Llewellyn Price Bevan, England, M.B., C.M., 1880. Cases of Nervous Disease, with Remarks on Opthalmoplegia, Aphasia, Ataxia, and Peripheral Neuritis.

John Biggam, Scotland (M.A.), M.B., C.M., 1886. Treatment in Cases of Placenta Prævia.

Paul Bowes, Scotland, M.B., C.M. (First-Class Honours), 1885. Cases from a General Practioner's Note-Book.

Charles Brown, Scotland, M.B., C.M., 1883. "Calenturas" in the South of Spain.

** Marie André Arthman Bruère, West Indies, M.B., C.M. (First-Class Honours), 1887. Experimental Researches in the direct action of Hydrogen Sulphide, Hydrogen Selenide, and Hydrogen Telluride on Hæmoglobin.

Walter Stewart Campbell, Scotland, M.B., C.M., 1887. On the Mechanism and Treatment in Bronchial Asthma.

Thomas Brown Darling, Scotland, M.B., C.M., 1884. Carcinoma of the Cervix Uteri: a Clinical Study.

10* Michael Dewar, Scotland, M.B., C.M., 1876. A Clinical Analysis of a Thousand Midwifery Cases.

** James Haig Ferguson, Scotland, M.B., C.M., 1884. A Study of some Points in the Anatomy and Physiology of the Uterus and Ovaries in their bearings on a hitherto-undescribed variety of Post-Partum Shock and Post-Partum Pain.

Alexander George Fraser, Scotland (M.A.), M.B., C.M., 1883. The Pathology, Pathological Varieties, and Causation of Acute Croupous Pneumonia.

*** Joseph Griffiths, Wales, M.B., C.M. (with Second-Class Honours), 1885. Observations on the Anatomy and Physiology of the Bladder and Urethra.

** George Lovell Gulland, Scot-

land (M.A., B.Sc.), M.B., C.M. (Second-Class Honours), 1886. Leucocytes: their Nature, Structure, Varieties, and Relations to the other parts of the Organism.

Henry Budd Hetherington, England, M.B., C.M., 1886. Supravaginal Hysterectomy for Carcinoma Uteri.

* Francis Richard Berthon Hinde, England, M.B., C.M., 1886. Cancrum Oris.

Theophilus Bulkeley Hislop, Scotland, M.B., C.M., 1886. Insolation.

Benjamin Jones, Wales, M.B., C.M., 1886. Two Years' Experience in a Club Practice.

* Alexander Livingstone Kerr, Australia, M.B., C.M., 1888. Massage in Gynecology.

20** Henry David Rooke Kingston, England, M.B., C.M., 1879. Leprosy.

* Edwin Leonard Lees, India, M.B., C.M., 1885. Epidemic Influenza of 1889-90, with Cases: and a Review of Similar Epidemics since 1510.

William Murray Leslie, Scotland, M.B., C.M., 1883. Practical Inquiry into Nervous Dyspepsia.

* John Liddell, Scotland, M.B., C.M., 1882. The Action of Quinine considered in connection with its Effects on the Parturient Uterus.

Archibald Mackenzie, Natal, M.B., C.M., (First-Class Honours), 1883. Ovariotomy in Natal, with Notes on Three Cases.

Archibald Lyle Macleish, Scotland (M.A.), M.B., C.M., 1881. Congenital Aniridia.

John MacMyn, Scotland, M.B., C.M., 1884. Perforation of the Appendix Vermiformis.

Charles James Morton, Scotland, M.B., C.M., 1886. Influenza.

*** Robert Muir, Scotland (M.A.), M.B., C.M. (First-Class Honours), 1888. Contributions to the Physiology and Pathology of the Blood.

George Frederick Odhams, England, M.B., C.M. (Second-Class Honours), 1887. The Influenza in Norwich.

30 Charles Edward Paterson, Scotland, M.B., C.M., 1884. Mechanical Restraint and Seclusion in the Management of the Insane.

*** George Edmund Pierez, Ceylon, M.B., C.M., 1880. Frambœsia.

* George Alexander Pirie, Scotland (M.A.), M.B., C.M. (First-Class Honours), 1886. The Action of the Spinal Nerve Centres in Health and Disease, with Special Reference to the Functional Diseases of the Spinal Cord.

* George Herbert Pollard, England, M.B., C.M., 1886. Notes on Uterine Fibroid Tumours.

Frank Utten Purchas, Jamaica, M.B., C.M., 1887. The Varieties, Causes, and Treatment of Dyspepsia.

* Charles Ramage, England, M.B., C.M., 1887. On a New Method of Investigat-

ing Scotoma, its Application, and some Results.

*** William George Aitchison Robertson, Scotland, (B.Sc.), M.B., C.M., 1887. Development of the Intermaxillary Bones in Mammals.

*** Arthur Robinson, England, M.B., C.M. (Second-Class Honours), 1883. Observations on the Development of Two Rodents.

Gaius Turner Smith, Canada, M.B., C.M., 1887. Typhoid Fever, and its Treatment.

Lloyd Grant Smith, England, M.B., C.M., 1883. Some Points in the Etiology and Symptoms of Cranial and Intracranial Suppuration.

40* William Johnson Smyth, Ireland, M.B., C.M., 1887. An Inquiry into the Blood and Urine of the Insane, with their Developmental Relationships.

* William Carr Sprague, England, M.B., C.M. (Second-Class Honours), 1887. The Regeneration of Tracheal Cartilages after Division: An Experimental Research.

* Charles Edward Grey Stalkartt, India, M.B., C.M., 1886. Catarrhus Epidemics, with Special Reference to that of 1889-90.

Alexander Mitchell Stalker, Scotland (M.A.), M.B., C.M., 1881. Cases of Myxœdema.

* James Taylor, Scotland (M.A.), M.B., C.M., 1886. Sweat Secretion in Relation to Paralysis.

** Charles Templeman, Scotland, M.B., C.M., 1879. Practical Observations in Forensic Medicine.

* Henry William Marett Tims, England, M.B., C.M., 1887. The Nervous Supply of the Upper Extremity in its Morphological and Pathological Relations.

* John Batty Tuke, New Zealand, M.B., C.M., 1881. General Paralysis of the Insane.

** Dawson Fyers Duckworth Turner, England (B.A.), M.B., C.M. (Second-Class Honours), 1888. Observations on Alcoholism.

* James Albert Wetherell, England, M.B., C.M., 1886. Essays on Dermatology.

50 Robert Prosser White, England, M.B., C.M., 1878. Poisoning by Nitro-Benzole.

*** John David Williams, Wales, M.B., C.M. (Second-Class Honours), 1888. Pathology of the Female Generative Organs.

Charles Blair Wilson, Italy, M.B., C.M., 1887. The Epidemic of Influenza in Florence, and its Treatment.

* Hector M'Lean Wilson, Scotland, M.B., C.M., 1882. Water Supply of Perth and an Outbreak of Enteric Fever.

GRADUATES (M.B., C.M.) WHO HAVE PASSED THE EXAMINATIONS WITH HONOURS FROM 1886 TO 1890, BOTH YEARS INCLUDED. [1]

1886.

Class I.

F. H. Jeffcoat (B.A.), N. Zealand
F. Truby King, New Zealand
P. A. Lindsay, New Zealand
George Alexander Pirie, Scotland
John William Smith, England
Joseph Tillie, Scotland
William Henry Turton, England

Class II.

Jas. A. Armitage (B.A.), England
E. W. W. Carlier (B.Sc.), England
Oliver Field, England
Leonard D. Gamble, Ireland
G. L. Gulland (M.A., B.Sc.), Scot.
David Wilson Scotland, India
Arthur Sellars, England
Thomas Jackson Thyne, Scotland
Clarence Henry Waters, England
J. L. Welch (M.A.), Jamaica

1887.

Class I.

André A. Bruère, West Indies
Ernest Christison Carter, England
Thomas Eustace Hill, England
G. O. C. Mackness (B.A.), Eng.
Ralph Henry Maddox, England
Christopher Martin, England
William Aldren Turner, Scotland
Q. M. Wallace (M.A.), Scotland
Thos. Hamilton Ward, England

Class II.

James Cameron, Scotland
George Fred. Odhams, England
Ross Francis Robertson, Scotland
Andrew Rowand, Scotland
William Carr Sprague, England
James Richard Whitwell, England
William Fraser Wright, Scotland

1888.

Class I.

Louis Edw. Barnett, N. Zealand
Thomas Watts Eden, England
Robt. Alex. Fleming (M.A.), Scot.
William Fordyce (M.A.), Scotland
John Montgomery, Scotland
Robert Muir (M.A.), Scotland

Class II.

William Andrew Betts, England
Robert Edie, Scotland
Sydney Jamieson (B.A.), Australia
Stephen Moister Laurence, West Indies
William George Laws, England
Frederick John M'Cann, Scotland
Jas. Middlemass (M.A., B.Sc.), Scotland
James Ritchie (M.A.), Scotland
James Smuts, Cape Colony
John Somerville, New Zealand
Isaac Thompson, England
John Christopher Thomson (M.A.), Scotland
James Henry Traquair, Scotland
Ninian George Trotter, N. Zealand
Dawson Fyers Duckworth Turner (B.A.), England
John Clarence Webster (B.A.), Canada
John David Williams, Wales

1889.

Class I.

Robert Oswald Adamson (M.A.), Scotland

[1] For names of those who received the Degrees with Honours prior to 1889, see Historical Appendix to List of Graduates of the University, published in 1889, pp. 129-132.

John William Crerar, Scotland
William Fred. Farquharson, Scot.
James Lackie, Scotland
Jas. Hill Williamson Laing (M.A., B.Sc.), Scotland
Hamilton Graham Langwill, Scot.
Alexander Maclean, Scotland
Eustace G. Pilgrim, Barbados
Wm. Gordon Woodrow Sanders, Scotland
James Andrew Thyne, Scotland
George Wilkinson, England

Class II.

Robert Dunlop Reid Allison, Scot.
William Everett, England
George Alfred Walter, England
Colin Gordon, England
Ewan John Maclean, Wales
James Monteith, Scotland
Benjamin Sweeten, Scotland
C. N. C. Wimberley, Scotland

1890.

Class I.

Charles James Whitehead Dixon, England
Carstairs Cumming Douglas, Scotland
Gerald Fitzgerald, Scotland
Robert Main Horne, Scotland
Colin Forbes Lees, Scotland
William Paterson, Scotland
George William Thompson, La Plata
William Kerr Walker, Scotland

Class II.

Edward Henry Alexander, New Zealand
Robert Brown, Scotland
John Wheeler Dowden, Ireland
George Balfour Marshall, Scotland
Arnold Winkleried Williams, England

BACHELORS OF MEDICINE AND MASTERS IN SURGERY, WHO GRADUATED ON 1ST AUGUST 1890.

Small CAPITALS *indicate First-Class Honours.*

Italics Second-Class Honours.

E. H. Alexander, N. Zealand
David H. Balfour, Scotland
Tom Stevenson Balfour, Scot.
George Hill Bartlett, England
John Alexander Bower, Scot.
J. E. Brandt (B.A.), Madeira
F. L. Brown (M.A.), France
Robert Brown, Scotland
John Brown-Lester, India
John Bruce, Scotland
H. J. M. Buist, Scotland
William H. Bunting, England
John Ridley Burnett, England
William Combe Burns, Scot.
Donald Cameron, Australia
H. M. Chasseaud, Asia Minor
R. D. Clarkson (B.Sc.), Scot.
George Craig, Scotland
Peter Crerar, Scotland
James Currie (M.A.), Scotland
Somerville B. Davis, England
Jas. A. Dick (B.A.), Australia
Walter Dickson, Scotland
C. J. W. DIXON, England
C. C. DOUGLAS, Scotland
John Wheeler Dowden, Ireland
Alexander Dunbar, Scotland
Alexander S. Duncan, Scot.
John Edmondson, England
Henry Edwards, Wales
Owen Foulkes Evans, Wales
Basil George Ewing, Ireland
D. P. M. Farquharson, Scot.
Robert M. Fenn, England

Gerald Fitzgerald, Scot.
Samuel Fleming, England
Richard C. Fryer, S. Africa
Fred. S. Genney, England
Sidney A. Gibbs, N. Zealand
Edmund V. Gibson, England
Alexander B. Giles, Scotland
Patrick H. Gillies, Scotland
Edward M. Goldie, England
Edmund H. Gonin, England
Henry Goudie, Turkey
Alex. C. E. Gray, Scotland
John David Gray, Scotland
Herbert W. Greatbatch, Eng.
Eustace C. Greaves, England
Thomas Arthur Green, Eng.
Charles N. Hamper, England
R. E. Harrold, Australia
Alexander Henderson, Scot.
James M. Hermon, Scotland
Albert G. Horden, Wales
Robert M. Horne, Scotland
John Howard-Jones, Wales
Thomas E. Hughes, England
Henry Greville Huie, Scot.
Joseph H. Johnson, Australia
Edward Hughes Jones, Wales
Thomas Owen Jones, Wales.
James M'K. M'Intyre, Scot.
James G. Kershaw, England
J. J. J. Kotzé, South Africa
James R. P. Lambert, Eng.
Lewis T. Lancaster, England
J. Lawson-Williams, Scot.
Alfred B. Lazarus, Australia
Colin F. Lees, Scotland
G. V. Lockhart, West India
Arthur J. M'Closky, India
Dugald M'Laren, Scotland
Herbert F. Malabre, Jamaica
George B. Marshall, Scotland
Claude Buist Martin, England
Frank Mason, England
F. A. Maynard, Tasmania
George S. Meadows, England
Harry George Melville, Scot.
James Acworth Menzies, Scot.
Henry N. D. Milligan, Eng.
Thomas W. Mitchell, Scot.
R. U. Moffat, South Africa
Julian R. Monnier, India.
G. H. Monro, New Zealand
James M'C. Morrison, Scot.
John Plowden Morton, Eng.
Tom D. Nicholson, England
Percy Athlestan Nightingale, Cape Colony
Maxwell Ogilvy - Ramsay, (M.A.), Scotland
C. M. Ormsby, Jamaica
Owen Trafford Owen, Eng.
J. C. Palmer, New Zealand
T. W. Parkinson, New Zealand
William Paterson, Scot.
R. J. Pope, (B.A.), Australia
William D. Rankin, (B.A.), Canada
James M'L. Reid, Scotland
John A. Robertson, Scotland
John Begg Robertson, Scot.
Robert I. Robertson, Scot.
William I. Robertson, Scot.
John Dewar Robson, Scot.
James S. Y. Rogers, Scot.
Robt. M. Ronaldson, Ireland
David Rorie, Scotland
Murdo Rose, (M.A.), Scot.
J. V. W. Rutherford, Eng.
George Herbert Rutter, Eng.
John George V. Sapp, Eng.
Charles Walter Scott, Eng.
Bobert Scott, Scotland
L. S. Senhouse, Barbados
Richard P. Sharman, Wales
William Cecil Sharpe, Eng.
Theodore Shennan, Scotland
W. Simmers, (M.A.), Scot.
R. B. Simmins, (M.A.), Scotland
J. F. Smith, (M.A.), Scot.
William C. Smith, America
W. C. W. Stain, England
A. J. M'F. Stenhouse, Scot.

George W. Sutherland, New South Wales
John Edward Thomas, Wales
G. W. THOMSON, La Plata
Alexander Thomson, Scot.
A. K. Thomson, Australia
John E. Thomson, England
George Thornton, England
J. C. Tosswill, New Zealand
Alexander Veitch, Scotland
Arthur H. Walker, Scotland
WILLIAM K. WALKER, Scot.
L. J. Weatherbe, Canada
Sidney Roberts Webb, Eng.
Arthur Robert A. Wilhelm, Cape Colony
Arnold W. Williams, Eng.
John Williams, Wales
John David Williams, Wales
John Robert Williams, Wales
Alfred O. Wilson, Australia
George Morton Wilson, Eng.
Orby Russell M. Wood, Eng.
James Younan, India
David Pryde Young, Scotland

13TH OCTOBER 1890.

Thomas Stewart Adair, Eng.
James Davison Colquhoun Allen, England
Robert Martin Beattie, New Zealand
Wm. Henry Hender Bennett, Australia
Wm. Alexander Black, Scot.
Walter Cardy Bluck, Bermuda
Wm. Hodgson Boazman, Scot.
Wm. Bower, Scotland
Percy Hamilton Boyden, Eng.
Wm. Carmichael, Scotland
John James Cowan, Scotland
Wm. Currie (M.A.), Scotland
Bernard Edward Dalison, Eng.
Arnold James Dearden, Eng.
Douglas Scott Dixson, China
Alexander Dott, Scotland
David Gordon Douglas, Scot.
Samuel Elliot, Scotland
Robert Arthur Fryer, Eng.
Douglas Henry M'Donel Graves, India
Edward Innes, Scotland
Alexander Evan Simpson Jack, Scotland
Geo. Bernard Jameson, Eng.
Claude Buchanan Ker, Eng.
Thomas Knowles, England
Peter Martin Kyle, Scotland
Thomas Dawson, Scotland
Robert Elliot Little, Scotland
Wm. Fyfe Craik Lowson, Scotland
J. D. Love Macalister, Scot.
A. Graham Macdonald, Scot.
H. Valentine M'Kenzie, India
G. Stewart Mansfield, Eng.
F. Wm. Marshall, Australia
A. Sutherland Miller, Scot.
Alfred Earnest Mole, Eng.
R. W. C. Norman, Trinidad
J. S. Mayers Nurse, Barbados
John Panton, Scotland
E. E. Roberts, New Zealand
H. G. F. E. le Roux, Cape of Good Hope
A. Freer Rutherford, Eng.
Walter Sansom, England
Walter John Shaw, Scotland
F. M. Traill Skae, Scotland
R. S. Stephenson, Tasmania
Arthur N. J. Story, England
Robert Strachan, Scotland
Russell Sturgis-White, Eng.
Arthur E. Taylor, Wales
Peter Thornton, Scotland
Francis P. Trench, Ireland
Thos. Nash Wilson, England
William Wood, England
James B. Young, Scotland

29TH NOVEMBER 1890.

Duncan Drummond, Scotland
Herbert Henry Hearsey, India
William Smith Kerr, Scotland
Henry James Mackenzie, Scotland
John Welsh Smith, Scotland
William Walter Williamson, Eng.

17TH APRIL 1891.

Wm. Menzies Hutton, Scot.
Robt. Murray Lyon, Scotland
James Adie Menzies, Scot.
John Liesching Rubidge, Cape of Good Hope
Thomas Steele, Scotland.

Class Prize Lists.

WINTER SESSION, 1890-91.

I.—CHEMISTRY.

ROBERT WILSON MEMORIAL PRIZE.—Jas. H. Frazer, M.A., Edinburgh, and George Shaw, Edinburgh—equal.

FIRST-CLASS HONOURS.—1. Jas. H. Frazer, Edinburgh, and George Shaw, Edinburgh—equal; 3. Robert S. Mowat, Haddington; 4. Joseph Edward Bowes, Notts; 5. Frank R. Pearson, Barrow-in-Furness; 6. Fred. Beddow; 7. David Landsborough, Kilmarnock (*Medallists*); 8. William H. Carse, Kirkcudbrightshire, Colin M'Vicar, M.A., Greenock, and Jas. A. Murray—equal; 11. Walter E. Johnstone, M.A., Cromarty, and David Rankin, M.A., Auchterderran—equal; 13. Lewis A. Crooks, Jamaica, and R. Fairbairn, Edinburgh—equal; 15. T. H. Jamieson; 16. Thomas Finlay, Mid-Lothian, and Charles Francis, Lassalle, Trinidad—equal; 18. J. M. Dalziel, Dollar, D. F. Dewar, and John Middleton—equal.

SECOND-CLASS HONOURS.—21. R. M. Broughton, South Devon; W. A. Stephen, Ayr; and William Wishart, Cupar—equal; 24. Charles W. Anderson, Perthshire; E. de Carle Prout, Sunderland; and E. G. Richards, Eskbank—equal; 27. W. de W. Wishart, Demerara; 28. A. Keith Campbell, Forfarshire; 29. William M'Vey, Edinburgh; Walter B. W. Park; and Frank G. Proudfoot, M.A., Leuchars—equal; 32. D. Macquorn Rankine Crichton, Leith, and K. W. Monsarrat, Kendal—equal; 34. Alexander W. G. Clark, Harthill, and Campbell Dykes, London—equal; 36. William Mitchell, Fyvie; 37. E. L. Borthwick; 38. Robert W. Beesley, and W. W. Chipman—equal; 40. H. A. Norie, Edinburgh; 41. L. M. Cairns, Galashiels; 42. Archer Hosking, New Zealand; 43. Andrew J. Gibson; 44. Robert

Samut; 45. E. R. Holmes, Shropshire, and G. H. Stevenson, Perthshire—equal; 47. A. J. Campbell, Duns; A. Heys, Rawtenstall; and Victor Alexander Ross, Sutherlandshire—equal; 50. John Landsborough; 51. S. H. B. Allison; D. J. Graham, Glenboig; J. A. Macfarlane, Trinidad, and James C. Rait—equal; 55. J. G. Anderson, Charles Francis Giddy, Ronald T. Herdman, Alexander Durie Russell, Charles A. M. Tyrell, Dundee, and D. A. Turkhud, India—equal.

PRACTICAL CHEMISTRY.

Summer Session, 1890.

First-Class Honours.—1. David Thomas (*Medallist*); 2. T. R. S. Sibbald; 3. Andrew Scott; 4. R. H. Makgill, and R. H. A. Watson—equal; 6. Z. M. Zorab; 7. Frank R. Pearson, and H. S. Sturrock—equal; 9. Wm. Jarvis Bell.

Second-Class Honours.—10. N. C. Das and J. B. Pearson—equal; 12. W. A. Gibb and James M. Rutherford—equal; 14. Charles Tweedie; 15. John Forbes; 16. S. H. Smith; 17. W. H. Gaunt.

Winter Session, 1890-91.

First-Class Honours.—1. Joseph Edward Bowes, Notts; 2. Colin M'Vicar, M.A., Greenock; 3. Thomas Finlay, Mid-Lothian; R. G. Selby, Cumberland; and George Shaw—equal; 6. John Middleton, Edinburgh (*Medallists*); 7. Charles W. Anderson, Perthshire; 8. J. M. Dalziel, Edinburgh, and James A. Murray—equal; 10. Robert W. Beesley, Preston; 11. Charles Francis Lassalle, Trinidad, and E. G. Richards, Eskbank—equal; 13. David Landsborough, Kilmarnock, and J. Stewart Norwell, B.Sc., Perth—equal; 15. S. Fraser, Inverness; 16. Lewis A. Crooks, Jamaica, and Robert S. Mowat, Haddington—equal; 18. William H. Carse, Kirkcudbrightshire; 19. John M. Dawson; 20. Campbell Dykes, London; James H. Frazer, Sidney, Messulam, Constantinople, and A. G. Naylor—equal; 24. John J. Hewison, M.A., Edinburgh, and James Wood—equal; 26. E. A. Fulton, Kendal, and Walter E. Johnstone, Cromarty—equal; 28. John Landsborough, and John T. Shirlaw, Loanhead—equal; 30. W. W. Chipman, Nova Scotia; Harry Dougall; R. Fairbairn, Edinburgh; Wm. C. W. M'Dowell, B.A., New Zealand; Philip M. Ragg, Great Yarmouth, and W. A. Stephen, Ayr—equal.

Second-Class Honours.—36. W. A. Potts, Edinburgh; William Ritchie, G. F. Whyte, Edinburgh; and W. de W. Wishart, Demerara—equal; 40. Michael Hughes, and William M'Vey, Edinburgh—equal; 42. Alexander W. G. Clark, Harthill; and John Mackinnon—equal; 44. William Mitchell, Fyvie; 45. James A. Gibson, Edinburgh; Charles Francis Giddy, D. J.

Jones, T. H. Jones, England ; K. W. Monsarrat, Kendal ; Fred. Porter, and G. H. Stevenson—equal ; 52. J. B. Boyd, and H. J. Ewald—equal ; 54. E. R. Holmes, Shropshire, and E. de Carle Prout, Sunderland—equal ; 56. T. H. C. Derham, D. J. Graham, Glenboig, and Neil Macvicar, Peebles—equal ; 59. Archer Hosking, New Zealand, and Frank G. Proudfoot, M.A., Leuchars —equal ; 61. Henry Reynolds Brown, M.A., Pau ; 62. Percy T. Hughes, Darlington ; W. Leslie Lyall, Leven ; and R. A. Ross—equal ; 65. Alexander D. Russell ; 66. R. M. Broughton, Devon ; D. M. R. Crichton, John Frank Gibbon, Trinidad, and James Watson, Mid-Calder—equal ; 70. D. N. Chatterjee ; 71. L. R. Wilson, Carlisle ; 72. Arthur Heys, Bacup, and Arthur Stein, Edinburgh—equal ; 74. A. N. Fleming ; 75. Thomas M. Bartlett, W. Indies, and D. Morison, Stornoway—equal ; 77. Stewart G. Ogilvy, Edinburgh ; 78. Kenneth MacLean, and A. W. Bowie—equal ; 80. F. H. Fairweather, and D. F. Laidlaw, Victoria—equal ; 82. C. Crawford Aitken, Stockton-on-Tees ; G. D. de Waal, and Charles R. White, Dumfriesshire—equal ; 85. D. F. Dewar.

ALEX. CRUM BROWN, M.D., *Professor*.

II.—BOTANY.

Summer Session, 1890.

Senior Division.

Section *A*.

First-Class Honours.—George S. Corstorphine, Edinburgh.

Section *B*.

First-Class Honours.—1. C. W. Branch, St Kitts, W.I. (*Medallist*); 2. William Catto, Aberdeenshire, and John D. J. Gilchrist, Anstruther—equal.

Second-Class Honours.—4. James N. Dalziel, Nagpin, India.

Junior Division.

Section *A*.

First-Class Honours.—1. John S. Flett, Kirkwall ; 2. William A. Gray, Aberdeen (*Medallists*) ; 3. James P. Hill, Kennoway ; 4. Wm. C. W. M'Dowell, Auckland, N.Z.

Second-Class Honours.—5. Harry Dougall, Stonehaven ; 6. A. C. Sturrock, Linlithgow ; 7. A. C. Pentland Smith, Fife ; 8. Alex. M'Callum, Scotland.

Section *B*.

First-Class Honours.—1. T. A. Coward, Carlisle ; 2. James A. Fullarton, New Zealand ; 3. James R. Watson, Falkirk ; 4. Joseph E. Bowes, Langley Mills (*Medallists*) ; 5. A. Keith Campbell, Mon-

trose; 6. Andrew M'Neil, Australia; Sutherland Simpson, Orkney; and D. W. Sutherland, Australia—equal.

SECOND-CLASS HONOURS.—9. John Linton, Edinburgh; 10. George Hodges, New Zealand, and T. Pettey, Iford—equal; 12. Robert Cochrane, Scotland; R. H. Makgill, Stirling; and W. B. Turnbull, Aberdeen—equal; 15. Joseph P. Barboza, Madras; Thomas H. Jamieson, Edinburgh; and A. M. N. Pringle, Aberdeenshire—equal; 18. J. R. Whait, London; 19. J. C. Beattie, Dumfriesshire, and W. A. Potts, England—equal; 21. C. S. Cantrell, New Zealand; Ronald M. Clark, Errol; Arthur Heys, Bacup; and James M. Wishart, Largs—equal; 25. C. A. Hogg, Tasmania; 26. Arthur Croll, Dundee; 27. Thomas Gibson, Victoria; 28. Wm. A. Stephen, Aberdeen; 29. Wm. Henry Parkes, Derby; 30. Sidney Messulam, Constantinople; 31. Wm. D. Adams, Edinburgh; 32. The Thakore Saheb of Gondal; 33. John Forbes, Inverness; Laurence Ker, Leicester; and James D. Macrae, Rossshire—equal; 36. D. F. Dewar, Ancroft, and L. D. L. Liddell, Portobello — equal; 38. Charles Kerr, Dundee; Charles W. Peach, Gattonside; and James M. Rutherford, Lochgilphead—equal.

PRACTICAL BOTANY.

FIRST-CLASS HONOURS.—1. John S. Flett, Orkney; 2. Fred. R. Lovering, Cornwall; 3. Malcolm M'Larty, Greenock (*Medallists*); 4. W. R. Center, Lahore, India, and Alexander M'Callum, Bathgate—equal; 6. Fred. Beddow, Derbyshire; 7. Joseph E. Bowes, Langley Mill; Walter E. Cameron, Queensland; James P. Hall, Kennoway; and W. B. Turnbull, Aberdeen—equal; 11. Wm. A. Stephen, Aberdeen, and J. R. Whait, London—equal.

SECOND-CLASS HONOURS.—13. R. Smallridge Bond, Wiltshire; 14. Alex. G. Bertram, Haddingtonshire; Wm. A. Gray, Aberdeen; John Linton, Edinburgh; J. B. M. Sherwen, Hensingham; and A. L. Pentland Smith, Fife—equal.

FOR DRAWINGS ILLUSTRATING WORK DONE DURING SESSION.

FIRST-CLASS HONOURS.—1. Fred. R. Lovering, Cornwall; 2. E. Bramwell, North Shields; 3. J. R. Whait, London (*Prizes*).

SECOND-CLASS HONOURS.—4. Wm. A. Gray, Aberdeen; 5. Wm. A. Stephen, Aberdeen, and Kenneth F. Ferguson, Simla—equal; 7. Alex. M'Callum, Edinburgh.

FOR MICROSCOPICAL PREPARATIONS ILLUSTRATING WORK DONE DURING THE SESSION.

FIRST-CLASS HONOURS. — 1. J. R. Whait, London; 2. Fred. R. Lovering, Cornwall; 3. John S. Flett, Orkney, and Malcolm M'Larty, Greenock—equal (*Prizes*); 5. W. R. Center, Lahore,

India; W. Harry Hunter, Scotland; and A. L. Pentland Smith, Fife—equal; S. E. R. Dodds, London, and Alexander M'Callum, Edinburgh—equal.

SECOND-CLASS HONOURS.—10. Joseph E. Bowes, Langley Mill, and Wm. A. Stephen, Aberdeen—equal; 12. R. Smallridge Bond, Wiltshire; John Linton, Edinburgh; and George M'Kellar, Dalkeith—equal; 15. Alex. G. Bertram, Haddingtonshire; R. T. Bruce, Edinburgh; John Forbes, Inverness; James B. Hill, Kennoway; and James M. Wishart, Largs—equal.

WINTER SESSION, 1890-91.

FIRST-CLASS HONOURS.—1. W. Cobden Rowlands, Wales (*Medallist*); 2. Gregg Wilson, Falkirk.

SECOND-CLASS HONOURS.—3. T. H. C. Derham, England; 4. L. A. Crooks, Jamaica; J. Ernest Good, S. Australia; J. K. Raymond, Natal; William Smith, Kinloch, Perthshire—equal; S. John K. Borland, Thornhill, Dumfriesshire, and B. L. Seawell, United States, America—equal; 10. Victor A. Ross, Sutherlandshire.

ISAAC BAYLEY BALFOUR, M.D., D.Sc., *Professor.*

III.—NATURAL HISTORY.

SUMMER SESSION, 1890.

SENIORS.

FIRST-CLASS HONOURS.—1. W. R. Center (*Medal*); 2. W. R. Strapp and J. J. Wilson—equal; 4. J. D. F. Gilchrist and William Catto—equal.

SECOND-CLASS HONOURS.—6. George Hodges; 7. H. W. Bolam.

JUNIORS.

FIRST-CLASS HONOURS.—1. Andrew M'Neil; 2. James P. Hill; 3. James Adamson, M.A.; 4. James A. Fullarton; 5. W. A. Gray (*Medals*); 6. Alexander Kennedy; 7. R. H. Makgill; 8. Keith Campbell; 9. J. E. Bowes; 10. J. M. Dalziel.

SECOND-CLASS HONOURS.—11. A. C. Sturrock; 12. Andrew Philip; 13. John S. Flett, R. S. Mowat, Daniel Watters, and A. M. N. Pringle—equal; 17. John Hume, W. A. Stephen, T. Hill Jamieson, and J. M. Menzies—equal; 21. J. M. Wishart; 22. W. H. Parkes; 23. K. W. Monsarrat; 24. A. P. Steavenson, Thomas Finlay, and W. B. Turnbull—equal; 27. Ronald Herdman and Andrew Gavin—equal; 29. William Wishart; 30. Ronald M. Clark; 31. James Rait and James Watson—equal; 33. A. S.

Cantrell and Robert Samut—equal; 35. J. N. Forrest, Sydney S. Messulam, D. Burt, and John A. Gordon—equal.

WINTER SESSION, 1890-91.

FIRST-CLASS HONOURS.—1. T. H. Taylor and V. A. Ross—equal (*Medallists*); 3. D. A. Turkhud.

SECOND-CLASS HONOURS.—4. F. Beddow; 5. A. M. Morrogh and Ed. de Carle Prout—equal.

W. H. Carse, who was absent through illness from the second examination, obtained 85 per cent. at the first.

PRACTICAL ZOOLOGY.

SUMMER SESSION, 1890.

SECTION *A*.

FIRST-CLASS HONOURS.—1. J. R. Whait; 2. W. R. Center; 3. Daniel Watters and W. H. Hunter—equal (*Medals*); 5. D. A. Johnstone, T. B. Moore, and J. C. Rait—equal.

SECOND-CLASS HONOURS.—8. W. Riach and R. T. Bruce—equal; 10. John Gilmour and John Wood—equal; 12. E. A. W. English, David Fairweather, and Arthur Heys—equal; 15. C. F. Giddy and F. T. F. Kerr—equal; 17. C. W. Peach and A. M. N. Pringle—equal; 19. A. C. Lupton, C. H. Ridley, and Thomas Finlay—equal; 22. James Adamson, M.A., and Robert Samut—equal; 24. James Watson, C. S. Cantrell, and A. K. Campbell—equal.

SECTION *B*.

FIRST-CLASS HONOURS.—1. James Gray; 2. J. A. Laing (*Medals*); 3. J. P. Hill and Sydney Messulam—equal.

SECOND-CLASS HONOURS.—5. John Tennant; 6. J. L. Bevans and A. A. Palmer—equal; 8. E. Croft Watts, C. C. Aitken, and C. Hardcastle—equal; 11. J. E. Martin; 12. A. O. Raikes; 13. Simon Fraser; 14. L. A. Crookes; 15. James Rutherford and John A. Robson—equal; 17. Matthew Lawrie and F. S. Rose—equal.

WINTER SESSION, 1890-91.

FIRST-CLASS HONOURS.—1. T. H. Taylor (*Medallist*); 2. A. M. Morrogh; 3. B. L. Seawell.

SECOND-CLASS HONOURS.—4. R. L. Roe; 5. V. A. Ross; 6. J. Gilchrist; 7. E. Bramwell and B. R. Craig Christie—equal; 9. A. S. Copplestone, C. E. Potter, and J. I. Waite—equal.

J. C. EWART, M.D., *Professor*.

IV.—ANATOMY.

Winter Session, 1890-91.

Students of the Third Year.

PRACTICAL ANATOMY—ORAL EXAMINATION.

First-Class Honours.—1. C. Hubert Bond, Wiltshire; Robert Hutchison, Kirkliston; L. G. Irvine, Edinburgh; L. J. H. Oldmeadow, Tasmania; Hugh Walker, M.A., Renfrewshire; and William Young, New Zealand—equal (*Medallists*); 7. J. D. Duncan, Arbroath; J. J. Evans, Carmarthen; Lim Boon Keng, Singapore; J. D. M'Millan, Bradford; and Thomas Yeates, Belfast—equal; 12. H. P. Bennet, Yorkshire; G. P. Coldstream, Edinburgh; Gustav Hogg, France; S. P. Hyam, Sydney; W. D. Lawrie, Bradford; D. G. M. Munro, Inverness; Muir Sandeman, Lanarkshire; and Meredith Young—equal; 20. Alexander Douglas, Northumberland; Thomas Farthing, Durham; J. D. Noble, Crichton; Malcolm Parkinson, Preston; J. V. Paterson, Dumfriesshire; J. Lawson Russell, Mid-Lothian; John Wallace, Fife; and J. R. Whait, London—equal; 28. William Brunton, Inverkeithing; W. B. Gow, Crieff; Arthur Macintosh, Inverness; P. O. Malabre, Jamaica; John Penny, Cumberland; W. A. Rutherford, Yorkshire; and Cuthbert Thompson, Londonderry—equal; 35. Featherstone Cargill, Edinburgh; J. G. Cattenach, Scotland; A. M. Easterbrook, London; R. C. Jameson, Edinburgh; Sir Bhagvat Singh Jareja, Gondal; C. K. Millard, Nottinghamshire; D. G. Newton, India; and D. A. Turkhud, India—equal; 43. G. H. Dupont, Grantham; Thomas Fentem, Bakewell; G. W. F. Macnaughton, Tranent; A. C. Matchett, Malvern; G. B. Matheson, Edinburgh; J. H. Murray, Montrose; and D. A. Welsh, Forfarshire—equal; 50. W. A. G. Alexander, East Lothian; Vincent Green, London; Robert Hanton, Cranston; George M'Gibbon, Wigtownshire; T. E. Nuttall, Accrington; and Charles Thomson, India—equal; 56. J. R. Armstrong, Wales; A. B. Jessop Coope, New Zealand; H. H. Hadden, Wexford; John Macmillan, Edinburgh; J. D. P. M'Latchie, Lanark; J. C. Maxwell, M.A., Dundee; George Peterkin, Herefordshire; George Phillips, London; and C. M. Simpson, Leslie—equal; 65. W. D. Barrow, Lancaster; J. Lawson Dick, Edinburgh; P. V. Locke, Penang; A. V. Macgregor, Pathhead; and A. R. Moon, Dundee—equal; 70. F. H. A. Clayton, London; D. C. Edington, Edinburgh; W. E. Foggie, Dundee; F. H. G. Hutchinson, Bedford; Raymond Maxwell, Tasmania; and A. A. Scot-Skirving, East Lothian—equal; 76. Hermann Schmitz, Redcar; and C. P. Stewart, Perth—equal; 78. G. P. P. Clapham, Liverpool; and D. A. Greaves, Barbados—equal; 80. W. C. Anderson, Scotland; F. S. Park, Liverpool; C. F. Ponder, Edinburgh; R. M. Truter, Cape Colony;

and E. Vaughan Williams, Wales—equal; 85. R. C. Dun, Warwickshire, and G. R. Kennedy, Dornoch—equal; 87. William Bell, Liverpool; A. H. Buchan, Edinburgh; R. B. Campbell, Scotland; D. R. Crow, Argyleshire; and F. J. du Toit, Cape Colony—equal; 92. D. B. Hewat, Cape Colony; 93. John Clark, Scotland; George Dickson, Dumfriesshire; and T. J. Thomson, Edinburgh—equal; 96. J. C. Atkinson, Chili; A. R. Bankartt, South Wales; F. T. Gourlay, Edinburgh; J. R. Higson, Ashton-upon-Ribble; and W. J. White, Dumfriesshire—equal; 101. A. S. Boyd, Scotland; N. C. Das, Bengal; F. M. Fellows, Great Yarmouth; and W. M. Robertshaw, Sheffield—equal; 105. H. H. Gill, Hertfordshire; Donald Macdonald, Fort-William; J. K. Watson, Bournemouth; and Z. M. Zorab, Calcutta—equal.

SECOND-CLASS HONOURS.—109. H. A. C. Davidson, Caithness-shire; 110. R. B. Marjoribanks, India; 111. Robert Hoggan, India; A. W. B. Livesay, Ventnor; and A. P. Ross, Windsor—equal; 114. Richard Kenyon, Islay, and George Munro, Lancashire—equal; 116. H. J. M. Brown, Liverpool; 117. D. M. Ferguson, Edinburgh; and W. E. Smith, Dumfries—equal; 119. J. G. F. Bent, London, and H. D. N. Mackenzie, Somersetshire—equal; 121. W. B. Broster, Southampton; M. B. Ray, Lancaster; and C. R. Sheward, London—equal; 124. C. K. Darnell, Edinburgh; 125. H. G. Campbell, Dundee; J. S. Fraser, Sutherland; and Joseph Michael, Calcutta—equal.

STUDENTS OF THE SECOND YEAR.

LECTURE CLASS—WRITTEN EXAMINATIONS.

FIRST-CLASS HONOURS.—W. J. Garbutt, Darlington (*Medallist*); Sir Bhagvat Singh Jareja, Gondal.

SECOND-CLASS HONOURS.—A. B. Marjoribanks, India.

STUDENTS OF THE SECOND YEAR.

PRACTICAL ANATOMY—ORAL EXAMINATIONS.

FIRST-CLASS HONOURS.—1. R. W. Briggs, Derby, and Lachlan Grant, Argyleshire—equal (*Medallists*); 3. Charles Crerar, Maryport, and W. J. Garbutt, Darlington—equal; 5. J. B. Duff, Helensburgh; 6. W. S. Malcolm, Blairgowrie; T. B. Moore, B.A., California; A. P. Steavenson, Darlington; and R. K. Tandan, Agra—equal; 10. T. P. Monteath, Canada; 11. W. B. Turnbull, Aberdeen; 12. W. B. Craig, Musselburgh; 13. W. F. M'A. Hewlings, Leicester, and C. H. Ridley, Demerara—equal; 15. W. R. Centre, Aberdeen; D. S. Johnston, Inverness; and R. J. T. Wright, M.A., Portobello—equal; 18. G. C. Laing, Edinburgh; 19. A. M. N. Pringle, Scotland; R. W. Innes Smith, Scotland; and W. R. Strapp, Natal—equal; 22. W. Y. Grant, Dundee; 23. Wm.

Mailer, Perth; 24. Geo. Nisbet, Dunbar; 25. E. J. H. Fraser, Hull; 26. T. A. Glover, Dumfries.

SECOND-CLASS HONOURS.—27. John Witherspoon, Durham; 28. S. W. Prowse, Canada, and E. E. Waters, Sheffield—equal; 30. E. C. Edwards, Woodbridge; 31. John Hume, Inchture; 32. J. W. Sutcliffe, Kirkcudbrightshire; 33. T. G. Milligan, Kirkcudbrightshire; 34. J. C. Caldwell, Edinburgh.

STUDENTS OF THE FIRST YEAR.

LECTURE CLASS—WRITTEN EXAMINATIONS.

FIRST-CLASS HONOURS.—1. J. E. Bowes, Langley Mills, Notts; 2. J. C. Rait, Leuchars, and James Watson, Mid-Calder—equal (*Medallists*); 4. S. H. B. Allison, Londonderry, and A. K. Campbell, Montrose—equal; 6. J. T. Grant, Edinburgh; Colin M'Vicar, Ardrishaig; and W. A. Stephen, Ayr—equal; 9. W. E. Fothergill, B.Sc., Southampton, and A. R. Wilson, M.A., Edinburgh—equal; 11. R. S. Mowat, Durham, and W. de W. Wishart, British Guiana—equal; 13. T. H. Jamieson, Edinburgh; L. S. L. Liddell, Portobello; Neil M'Vicar, Peeblesshire; George Shaw, Edinburgh; R. W. Innes Smith, Scotland, and D. W. Sutherland, Melbourne—equal; 19. R. St G. S. Bond, Wiltshire; 20. F. G. Proudfoot, M.A., Leuchars; 21. W. E. Johnstone, M.A., Cromarty; 22. T. M. Bartlett, Jamaica, and Archer Hosking, New Zealand—equal; 24. John Forbes, M.A., Inverness-shire; R. T. Herdman, Edinburgh; and K. W. Monsarrat, Kendal—equal; 27. J. C. Caldwell, Edinburgh, and W. C. W. M'Dowall, B.A., New Zealand—equal; 29. David Landsborough, M.A., Kilmarnock; 30. E. A. W. English, Malvern; J. A. Gibson, Peebles; and John Mackinnon, Skye—equal.

SECOND-CLASS HONOURS.—33. C. Crawford Aitken, Kennoway; 34. H. R. Brown, M.A., France, and D. M. R. Crichton, Leith—equal; 36. John Landsborough, Kilmarnock; 37. John Anderson, Dornoch; 38. D. J. Graham, Glenboig, and Kenneth MacLean, Scotland—equal; 40. Thomas Gibson, Australia, and J. M. Rutherford, Lochgilphead—equal; 42. David Bonthrone, Fife; 43. H. A. Leebody, Londonderry; 44. L. M. Cairns, Galashiels; 45. D. F. Dewar, Northumberland; 46. W. H. Hunter, Edinburgh; D. F. Laidlaw, Victoria; W. A. Potts, B.A., Edinburgh; and E. C. Watts, Isle of Wight—equal; 50. D. N. Chatterjee, Calcutta; P. T. Hughes, Durham; R. A. Ross, Londonderry; and J. W. L. Spence, Scotland—equal; 54. L. A. Crooks, Jamaica; 55. Arthur Heys, Bacup; 56. N. H. Macmillan, South Africa, and Henry Waters, Edinburgh—equal; 58. O. H. Chapman, Lincolnshire, J. A. Parsons, Burnley, and W. M. Taylor, Edinburgh—equal.

George M'Kellar, Edinburgh, was unavoidably absent from one Examination, and is awarded an average of 74 per cent.

STUDENTS OF THE FIRST YEAR.

PRACTICAL ANATOMY—ORAL EXAMINATIONS.

FIRST-CLASS HONOURS.—1. R. St G. S. Bond, Wiltshire; J. E. Bowes, Langley Mills, Notts; A. K. Campbell, Montrose; and J. S. H. Walker, Perth—equal (*Medallists*); 5. W. L. Martin, M.A., Edinburgh; Geo. M'Kellar, Dalkeith; David Rankine, M.A., Auchterderran, and W. A. Stephen, Ayr—equal; 9. W. W. Chipman, Nova Scotia, and L. S. L. Liddell, Portobello—equal; D. J. Graham, Glenboig; H. A. Leebody, Londonderry; Symington Macmaster, Wigtownshire; D. W. Sutherland, Melbourne; and A. R. Wilson, Edinburgh—equal; 16. Arthur Heys, Bacup; John Mackinnon, Skye; and W. de W. Wishart, British Guiana—equal; 19. J. F. Gibbon, Trinidad, and T. H. Jamieson, Edinburgh—equal; 21. J. C. Rait, Leuchars; 22. John Anderson, Dornoch; E. A. W. English, Malvern; J. J. Hewison, M.A., Edinburgh; and James Watson, Mid-Calder—equal; 26. R. S. Mowat, Durham; William Mitchell, Aberdeenshire; Colin M'Vicar, Ardrishaig; Neil M'Vicar, Peeblesshire; J. M. Rutherford, Lochgilphead; F. S. Rose, Orkney; and E. D. Williams, Wales—equal; 33. Sidney Messulam, Constantinople; 34. D. F. Laidlaw, Victoria; M. N. Nicholson, Stornoway; and C. A. M. Tyrrell, Forfarshire—equal; 37. C. C. Aitken, Kennoway; S. H. B. Allison, Londonderry; Priyanath Deb, India; John Forbes, M.A., Inverness-shire; and R. E. Loney, Berwickshire—equal; 43. H. H. Balfour, Edinburgh; Geo. Drummond, Doune; W. H. Hunter, Edinburgh; T. E. E. Roddis, Hastings, and G. C. Taylor, Manchester—equal; 47. David Bonthrone, Fife; A. C. Lupton, Scarborough; Donald Morison, Stornoway; and R. A. Ross, Londonderry—equal; 51. L. A. Crooks, Jamaica; J. A. Macfarlane, Trinidad; F. G. Proudfoot, M.A., Leuchars; Arthur Stein; Edinburgh, and J. T. Shirlaw, Loanhead—equal.

SECOND-CLASS HONOURS.—56. T. H. C. Derham, Preston; Simon Fraser, Inverness, and W. M. Taylor, Edinburgh—equal; 59. T. M. Bartlett, Jamaica; Wilfrid Glegg, Edinburgh; W. E. Johnstone, Cromarty; and Kenneth Maclean, Scotland—equal; 64. James Affleck, Fort-William; G. S. Brown, Edinburgh; and J. K. Jamieson, Shetland—equal; 67. D. M. R. Crichton, Leith, and Keith Monsarrat, Kendal—equal; 69. Robert Cochrane, Larbert; 70. L. C. Edwards, Aberystwyth; E. D. W. Greig, Edinburgh; and G. P. Yule, Edinburgh—equal; 73. H. G. Brown, Edinburgh, and E. R. Holmes, Shifnam—equal; 75. S. G. Ogilvy, Edinburgh; 76. A. J. Gibson, Stornoway, and Imdad Ali Khan, India—equal; 78. J. G. Rodger, New York; 79. H. E. Huntley, Lancashire; 80. O. H. Chapman, Lincolnshire; 81. D. N. Chatterjee, Calcutta, and Robert Grieve, Bedford—equal.

THE SENIOR MACKENZIE BURSARY was awarded to C. Hubert Bond, Wiltshire.

THE JUNIOR MACKENZIE BURSARY was awarded to R. St G. S. Bond, Wiltshire; William Mitchell, Aberdeenshire, and J. G. Rodger, New York—equal.

SPECIAL CERTIFICATES OF PROFICIENCY IN DISSECTING were awarded to:—C. Crawford Aitken, Kennoway; S. H. B. Allison, Londonderry; T. M. Bartlett, Jamaica; D. A. Cameron, Stockton-on-Tees; L. C. Edwards, Aberystwyth; E. A. W. English, Malvern; D. F. Laidlaw, Victoria; W. L. Martin, M.A., Edinburgh; Sidney Messulam, Constantinople; Neil M'Vicar, Peeblesshire; David Rankine, M.A., Auchterderran; R. A. Ross, Londonderry.

THE SENIOR "JOHN AITKEN CARLYLE" BURSARY in Anatomy and Physiology was awarded to W. J. Garbutt, Darlington. *Proxime Accessit.*—Sir Bhagvat Singh Jareja, Gondal.

THE JUNIOR "JOHN AITKEN CARLYLE" BURSARY in Anatomy and Chemistry was awarded to J. E. Bowes, Langley Mills, Notts. *Proxime Accessit.*—George Shaw, Edinburgh.

The following gentlemen acted as Prosectors to the Class:—C. H. Bond, Wiltshire; David Fairweather, Edinburgh; John Gilchrist, Argyllshire; J. R. Higson, Ashton-upon-Ribble; P. V. Locke, Penang; H. S. Sturrock, Cupar-Fife; D. A. Welsh, Forfarshire.

SUMMER SESSION, 1890.

PRACTICAL ANATOMY.

FIRST-CLASS HONOURS.—1. Edward Leaming, New York (*Medallist*); 2. W. A. J. Alexander, M.A., East Lothian, and J. L. Russel, Mid-Lothian—equal; 4. Lim Boon Keng, Singapore; 5. Vincent Green, Ealing; J. W. Lazear, Baltimore; T. P. Waring, Savannah, and Thomas Yeates, Belfast—equal; 9. Alexander Brownlie, Inverness; Charles Norris, New York; and Charles Wilson, Blackheath—equal; 12. A. H. Knapp, New York; 13. J. H. Johnston, Skipton; 14. C. R. Edmondson, Lancaster; J. L. Thompson, Australia; and W. H. Wilson, Yorkshire—equal; 17. Featherstone Cargill, Scotland; 18. J. R. Taylor, Staffordshire; 19. Donald Macaulay, M.A., Ross-shire; 20. Lawrence Bowman, New Zealand; R. B. Gass, Morecambe; Hugh Steven, Glasgow; and W. T. Wearing, Kirkby Lonsdale—equal; 24. R. P. Dawson, Scotland, and James M'Donald, Lochee—equal; 26. Samuel Oddie, Yorkshire; 27. Thomas Fentem, Bakewell; 28. D. G. M. Munro, Inverness; C. E. Stephens, Devonshire; and Cuthbert Thompson, Londonderry—equal; 31. J. W. Craig, Roxburghshire, and Mathias Nicoll, New York—equal; 33. D. C. Edington, Edinburgh, and Wm. Scott, Laurencekirk—equal.

SECOND-CLASS HONOURS.—35. W. T. Hall, Staffordshire; 36. H. W. Crosse, Norwich; 37. Geo. Peterkin, Herefordshire; 38. J. Lawson Dick, Edinburgh.

(EXAMINATIONS CONDUCTED ON THE STUDENTS' OWN DISSECTIONS.)

FIRST-CLASS HONOURS.—1. John Kippax, Burnley; A. H. Knapp, New York, and J. W. Lazear, Baltimore—equal (*Medallists*); 4. R. C. Dun, Warwickshire; F. Macdonald Frazer, U.S.A.; H. B. Gladstone, London; P. J. Henderson, Edinburgh; R. Owen Morris, North Wales; Mathias Nicoll, New York; Charles Norris, New York, and C. W. Stevens, U.S.A.—equal; 12. R. W. Briggs, Derby; William Catto, Aberdeenshire; J. B. Duff, Edinburgh; R. J. T. Wright, Portobello; and J. C. Wilson, Ayr—equal; 17. Robert M'Camon, Stranraer, and R. K. Tandan, Agra—equal; 19. E. H. Fraser, Hull; W. A. Gray, Aberdeen; and G. C. Laing, Edinburgh—equal; 22. T. A. Clinch, London; W. E. Foggie, Dundee; A. M. Fleming, Edinburgh; and John Macmillan, Forfarshire—equal; 26. W. B. Craig, Edinburgh, and J. C. Maxwell, Dundee—equal; 28. A. H. Buchan, Edinburgh.

SECOND-CLASS HONOURS.—29. J. G. Fraser, Ross-shire; 30. J. G. Walker, Calcutta.

WM. TURNER, KT., M.B., D.C.L., *Professor.*

V.—INSTITUTES OF MEDICINE.

SENIOR.

FIRST-CLASS HONOURS.—1. R. Hutchison, Kirkliston; 2. Lim Boon Keng, Singapore, and D. A. Welsh, Scotland—equal; 4. L. B. Beddie, Aberdeen; 5. J. L. Dick, Edinburgh (*Medallists*); 6. T. Farthing, Durham; 7. P. O. Malabre, Jamaica; 8. A. M. Easterbrook, Scotland, and C. Parker, Tasmania—equal.

SECOND-CLASS HONOURS.—10. V. Green, London; 11. A. B. Carvosso, Queensland; R. L. Guthrie, Dundee; and J. D. M'Millan, Bradford—equal; 14. J. C. Maxwell, Dundee, and J. L. Russel, Joppa—equal; 16. J. R. Armstrong, North Wales; 17. G. Dickson, Dumfriesshire; 18. R. C. Lingard Guthrie, Dundee; 19. W. A. Rutherford, Yorkshire; 20. W. C. Anderson, Scotland, and S. G. Davidson, Scotland—equal; 22. G. H. Dupont, England; M. Gillespie, Kirkcudbright; J. H. Murray, Montrose; and R. Parkhurst, Blackheath—equal; 26. A. C. Ainslie, Scotland; R. C. Dun, England; and C. S. Glegg, Scotland—equal; 29. J. D. Pollock, Galashiels, and D. A. Turkhud, Bombay—equal; 31. G. Phillips, China; 32. G. Halley, Dundee; 33. M. R. Bow, India; A. H. Buchan, Edinburgh; G. P. Coldstream, India; and J. R. Higson, Ashton-upon-Ribble—equal; 37. J. G.

Cattanach, Scotland; J. D. Duncan, Arbroath; and D. C. Watson, Mid-Calder—equal; 40. J. M'Lean, Dunning; 41. W. C. Macknight, Victoria, and S. Davidson, Scotland—equal.

JUNIOR.

FIRST-CLASS HONOURS.—1. J. A. Fullarton, B.A., New Zealand; 2. Jas. Adamson, M.A., Edinburgh; 3. C. K. Millard, Notts; 4. R. W. Briggs, England (*Medallists*); 5. J. Steed, Baldoch, and J. Tennant, Scotland—equal; 7. J. B. Duff, Helensburgh; 8. C. W. Branch, St Kitts, W. Indies, and C. Crerar, Maryport—equal.

SECOND-CLASS HONOURS.—10. W. F. Hewlings, Leicester, and J. P. Stewart, Edinburgh—equal; 12. T. Gibson, M.A., Perth; 13. J. S. Flett, Kirkwall; Sir Bhagvat Singh Jareja, Gondal; and H. Schmitz, England—equal; 16. W. R. Center, Lahore, India; W. J. Garbutt, England; H. B. Gladstone, London; and F. V. Thomas, London—equal; 20. A. M'Neil, Australia; 21. J. M. Buist, Scotland; 22. D. Thomas, Dumfriesshire, and R. H. Makgill, Scotland—equal; 24. C. J. H. Aitken, Edinburgh; 25. J. Kippax, Goodshaw, Manchester, and A. M. N. Pringle, Scotland—equal; 27. A. Kennedy, Inverness, and C. A. Hogg, Tasmania—equal; 29. E. Ireland, Tasmania, and W. B. Turnbull, Aberdeen—equal; 31. A. Moorhead, Mauritius; T. Pettey, Hampshire, and W. M. D. Selby, Wigtonshire—equal; 34. A. Gwyther, India, and W. R. Strapp, Natal—equal.

PRACTICAL PHYSIOLOGY.

SUMMER SESSION, 1890.

FIRST-CLASS HONOURS.—1. D. A. Welsh, Forfarshire; 2. G. W. F. M'Naughton, Tranent (*Medallists*); 3. A. C. Ainslie, Edinburgh, and G. Home, New Zealand—equal.

SECOND-CLASS HONOURS.—5. R. Hutchison, Edinburgh; 6. J. D. M'Millan, Bradford; 7. R. L. Mackirdy, Rothesay; 8. J. R. Armstrong, North Wales; 9. W. B. Gow, Crieff; 10. T. A. Granger, Aberdeen; D. G. M. Munro, Inverness, and J. D. P. M'Latchie, Scotland—equal; 13. P. O. Malabre, Jamaica; 14. W. M. Robertshaw, Yorkshire; 15. J. G. Cattanach, Scotland; T. Gibson, Tyrone; and J. M. Lowson, Forfar—equal; 18. E. H. Fraser, Hull; 19. V. Green, Ealing; 20. J. A. Clinch, London; T. Farthing, Durham; G. B. Mathieson, Edinburgh, and J. P. Stewart, Edinburgh—equal; 24. J. W. Craig, Castle Douglas, and M. Young, Lancashire—equal; 26. J. B. Duff, Helensburgh.

Prize for the Best Series of Histological Drawings awarded to Francis Ward, India.

WINTER SESSION, 1890-91.

FIRST-CLASS HONOURS.—1. J. S. Flett, Kirkwall (*Medallist*); 2. W. R. Center, Lahore, India; 3. Jas. Adamson, M.A., Edinburgh.

SECOND-CLASS HONOURS.—4. C. Crerar, Maryport; 5. C. W. Branch, St Kitts, W. India; 6. F. H. Watling, India, and W. C. Anderson, Scotland—equal; 8. L. Grant, Johnstone; 9. W. Bethune, Lochgelly; 10. D. A. Turkhud, Bombay; 11. A. Steavenson, Darlington; 12. Sir Bhagvat Sing Jareja, Gondal, and W. R. Strapp, Natal—equal.

WILLIAM RUTHERFORD, M.D., *Professor.*

VI.—MATERIA MEDICA.

FIRST-CLASS HONOURS.—1. Hugh Walker, Scotland; 2. George Home, New Zealand; 3. Robert Hutchison, Kirkliston; 4. J. J. Evans, Wales; 5. Edward L. Phillips, Taunton; 6. John Owen, Wales (*Medallists*); 7. Charles Thomson, India; 8. G. W. F. Macnaughton, Scotland; 9. James L. Russell, Joppa; 10. Gustave H. Hogg, France.

SECOND-CLASS HONOURS.—11. William M. Brunton, Inverkeithing; 12. Lloyd J. H. Oldmeadow, Tasmania, and Percival V. Locke, Penang—equal; 14. William Young, New Zealand; 15. James G. Christie, Forfarshire, and M. R. Bow, India—equal; 15. C. Hubert Bond, Wiltshire; 18. James Macdonald, Lochee; 19. D. C. Edington, Scotland, and D. G. M. Munro, Inverness—equal; 21. P. O. Malabre, Jamaica; 22. W. B. Gow, India, and M. Young, England—equal; 24. John B. Thomson, New Zealand, and George Dickson, Dumfriesshire—equal; 26. Vincent Green, Ealing; 27. J. Ernest Moorhouse, B.Sc., England; Alexander R. Moon, Dundee; J. D. P. M'Latchie, Scotland, and D. H. Burn, Arbroath—equal; 31. James C. Maxwell, Dundee; Lim Boon Keng, Singapore, and J. W. Stenhouse, Scotland—equal; 34. T. A. Granger, Aberdeen; 35. Raymond Maxwell, Tasmania; John Penny, Great Broughton; G. F. Longbotham, Middlesborough, and S. G. Davidson, Morayshire—equal; 39. G. P. Coldstream, Lahore; 40. John R. Armstrong, Wales; 41. R. L. Guthrie, Dundee; J. L. Dick, Edinburgh; and James M'Clew, Portpatrick—equal; 44. Robert Proudfoot, Dumfriesshire, and H. D. Coles, Bournemouth—equal; 46. J. R. Higson, Ashton-upon-Ribble; 47. J. R. Watson, Yorkshire; R. W. Briggs, Derby; and L. B. Beddie, M.A., Aberdeenshire—equal; 50. David Fraser, Wrexham, and H. H. Hadden, Ireland—equal; 52. J. R. Whait, London, and Murray Gillespie, Kirkcudbrightshire—equal; 54. John W. Craig, Castle-Douglas; 55. F. H. G. Hutchinson, India; and D. B. Hewat, Cape Colony—equal; 57. G. H. Dupont, England; T. G. Sloan, Scotland; and J. H. Murray, Montrose—equal; 60. F. H. A. Clayton, London; C. P. Stewart, Perth; and John

Wallace, Fife—equal; 63. Wm. J. White, Dumfriesshire; T. B. Hearder, Edinburgh; and C. J. Hugo, Cape Colony—equal; 66. F. Lishman, Durham, and T. E. Nuttall, Lancashire—equal; 68. W. A. Rutherford, Yorkshire; 69. D. C. Watson, Mid-Calder, and W. E. Foggie, Dundee—equal; 71. F. M. Fellows, Great Yarmouth; 72. G. B. Mathieson, Edinburgh, and D. R. Crow, Argyllshire—equal; 74. W. H. Parkes, New Zealand; 75. J. C. Wilson, Ayr, and G. C. Sandford, Salop—equal; 77. T. B. Barber, West Coast Africa; A. W. B. Livesay, England; A. R. Bankart, South Wales; and James Maclean, Dunning—equal.

William Bruce Bell, Falkirk, was present at two of the three examinations, and obtained 71·5 per cent.

PRACTICAL MATERIA MEDICA.

Summer Session, 1890.

First-Class Honours.—1. George Home, New Zealand; 2. Hugh Walker, Scotland; 3. P. O. Malabre, Jamaica; 4. W. B. Gow, Crieff (*Medallists*); 5. John Penny, Great Broughton; 6. W. F. M'Allister Hewlings, Leicester; 7. D. A. Welsh, Forfarshire; 8. John Macmillan, Forfarshire; 9. Walter Adam, Dingwall.

Second-Class Honours.—10. John Ravensworth Liddell, Scotland; 11. J. J. Evans, Carmarthen, and George Brand Mathieson, Edinburgh—equal; 13. J. C. Macgown, Cumbrae; 14. J. Clark Wilson, Ayr, and Wm. Young, New Zealand—equal; 16. Featherston Cargill, Edinburgh; 17. J. Russell Higson, Ashton-upon-Ribble; 18. John D. Duncan, Arbroath; 19. Douglas C. Watson, Mid-Calder; 20. Archibald MacNicol, Ayrshire; 21. John W. Craig, Castle-Douglas, and Thomas Fentem, England—equal; 23. Lim Boon Keng, Singapore; 24. Robert Hanton, Cranston; 25. V. Green, Ealing; 26. C. K. Millard, England; 27. Charles Thomson, India; 28. Edward L. Phillips, Taunton; 29. James D. Noble, Ford; 30. James Ernest Moorhouse, Yorkshire, and Thomas Farthing, Durham—equal; 32. James Kenneth Watson, Yorkshire; 33. H. Gordon Campbell, Dundee.

J. F. Crombie, North Berwick, gained first-class honours (75 per cent.), and Percival V. Locke, Penang, gained second-class honours (70 per cent.) in two of the class examinations, but were prevented from being present at the third.

THOMAS R. FRASER, M.D., *Professor.*

VII.—GENERAL PATHOLOGY.

First-Class Honours.—1. R. Hutchison, Scotland; 2. George Home, New Zealand; 3. J. L. Dick, Edinburgh; 4. James A. Fullerton, B.A., New Zealand, and A. G. Talbot, New Zealand—equal (*Medallists*); 6. J. Ernest Moorhouse, B.Sc., England; 7. A. Fells, Ramsgate.

SECOND-CLASS HONOURS.—8. J. J. Evans, Wales; 9. G. W. F. Macnaughton, Tranent; 10. G. F. Longbotham, Middlesborough; 11. D. C. Edington, Edinburgh, and James C. Maxwell, M.A., Dundee—equal; 13. T. G. Sloan, Scotland, and John W. Craig, Castle-Douglas—equal; 15. J. H. Murray, Montrose; J. L. Russell, Joppa; and D. B. Hewat, Cape Colony—equal; 18. W. B. Gow, Crieff; John Wallace, Fife; G. H. Hogg, France; John B. Thomson, New Zealand; and Lim Boon Keng, Singapore—equal; 23. D. C. Watson, Mid-Calder; A. B. J. Coope, New Zealand; Vincent Green, Ealing; L. S. H. Oldmeadow, Tasmania; William Young, New Zealand; and E. L. Phillips, Taunton—equal; 29. P. O. Malabre, Jamaica; J. D. M'Millan, Bradford; and L. B. Beddie, Aberdeenshire—equal; 32. T. Browne Hearder, Edinburgh, and R. L. Guthrie, Dundee—equal; 34. S. G. Davidson, Scotland; 35. C. H. Bond, Wiltshire, and G. Newman, Leominster—equal; 37. St John Stanwell, Rochdale; F. H. A. Clayton, London; George P. Coldstream, Lahore, India; John Owen, Wales; and Murray Gillespie, Kirkcudbrightshire—equal; 42. George B. Mathieson, Edinburgh; 43. H. D. Coles, Bournemouth; Wm. C. Anderson, Scotland; R. Maxwell, Tasmania; Wm. Scott, Laurencekirk; and J. F. Carruthers, Inverness—equal; 48. Walter Simpson, Edinburgh, and J. Clark Wilson, Ayr—equal; 50. Geo. Dickson, Dumfriesshire; James M'Donald, Lochee; George H. Dupont, England; and James Maclean, Dunning—equal; 54. James G. Cattanach, Scotland.

PRACTICAL PATHOLOGY.

SUMMER SESSION, 1890.

SENIOR DIVISION.

FIRST-CLASS HONOURS.—1. John Henderson, Edinburgh (*Medallist*).
SECOND-CLASS HONOURS.—2. R. H. Drennan, County Derry.

JUNIOR DIVISION.

FIRST-CLASS HONOURS.—1. J. J. Evans, Carmarthen; 2. Robert Hutchison, Kirkliston, and Alan Robertson, Singapore—equal; 4. P. O. Malabre, Jamaica; 5. S. G. Davidson, Morayshire (*Medallists*); 6. G. W. F. Macnaughton, Haddingtonshire; 7. Alex. Douglas, Northumberland; 8. J. L. Dick, Edinburgh; D. C. Edington, Edinburgh; J. L. Russell, Joppa; and J. E. Moorhouse, Huddersfield—equal; 12. L. B. Beddie, Aberdeenshire.

SECOND-CLASS HONOURS.—13. R. Hanton, Cranston; Geo. Home, New Zealand; Hugh Walker, Scotland; and J. R. Liddell, Scotland—equal; 17. P. V. Locke, Penang, and R. L. Guthrie, Dundee—equal; 19. W. A. J. Alexander, M.A., East Lothian; 20. W. Adam, Dingwall; 21. A. H. Buchan, Edinburgh, and W. B. Gow, Crieff—equal; 23. G. F. Longbotham, Yorkshire,

and T. Fentem, Bakewell—equal; 25. V. Green, Ealing; 26. A. G. Talbot, New Zealand; Robert Proudfoot, Dumfriesshire; and D. G. M. Munro, Inverness—equal; 29. G. Peterkin, Herefordshire, and W. Scott, Laurencekirk—equal; 31. J. D. Duncan, Victoria; 32. W. Young, Wellington, N. Z.; 33. J. W. Hislop, Scotland, and James M'Donald, Lochee—equal; 35. Murray Gillespie, Kirkcudbright, and G. B. Mathieson, Edinburgh—equal; 37. J. H. Murray, Montrose, and J. G. F. Bent, Bridgewater—equal; 39. J. D. P. M'Latchie, Scotland; A. C. Ainslie, Edinburgh; and Geo. H. Dupont, England—equal; 42. J. W. Craig, Castle-Douglas; 43. J. G. Cattanach, Scotland; J. Wallace, Fife; and James M'Clew, Port-Patrick—equal; 46. J. C. Macgown, Cumbrae; 47. C. M. Simpson, Leslie, and J. W. Stenhouse, Edinburgh—equal; 49. W. G. Foggie, Dundee; G. Halley, Dundee; and D. C. Watson, Mid-Calder—equal; 52. W. Simpson, Edinburgh; C. Wilson, Blackheath; and J. D. Noble, Crichton—equal; 55. J. R. Armstrong, Denbighshire (average on two examinations).

WINTER SESSION, 1890-91.

FIRST-CLASS HONOURS.—1. T. A. Clinch, London (*Medallist*); 2. D. Findlay, Dundee.

SECOND-CLASS HONOURS.—3. J. R. Whait, London.

W. S. GREENFIELD, M.D., *Professor.*

VIII.—SYSTEMATIC SURGERY.

SENIORS.

FIRST-CLASS HONOURS.—1. John Anderson, Shetland; 2. R. Murray Leslie, M.A., B.Sc., Ross-shire; 3. David Wield, M.A., Ayr; 4. George Elder, East Lothian (*Medallists*); 5. W. J. Walker, B.A., Port Adelaide; 6. W. Murray, Montrose; 7. James C. Whyte, Edinburgh; 8. D. Macmillan, New Galloway; 9. Alfred Duke, M.A., Forfarshire; E. J. W. Carruthers, Inverness; Charles Frier, Northallerton; E. B. Fuller, Cape Town; and Sidney Hillier, Gloucestershire—equal; 14. John Livingstone, Perth, and John B. Scott, Fife—equal.

SECOND-CLASS HONOURS.—16. Hugh A. Clark, Calcutta; J. Frank Crombie, North Berwick; Frank Grenier, Ceylon; George Hennan, Edinburgh; Robert Knox, Leith; J. B. Smith, Musselburgh; and David Stuart, Strathspey—equal; 23. James S. Anderson, Peterhead; R. P. Cockburn, Bedford; John Cowan, New Galloway; Wakefield MacGill, Musselburgh; Neish Park Watt, M.A., Banff; and Edward Kinmont, Melrose—equal; 29. T. F. Macdonald, Edinburgh; 30. T. G. Matthews, Appleby; 31. J. F. Robertson, Shetland; 32. William D. Forsyth, Eyemouth; 33.

T. N. Macgowan, Kirkcudbrightshire; 34. John A. H. Duncan, Inchture; 35. F. R. K. Ball, New Brunswick; 36. George D. Darlington, Edinburgh; 37. J. W. Williams, New Zealand; 38. Paxton St Clare More, Rothwell; 39. P. W. Schmidt, Yorkshire; Thomas Stodart, Pencaitland; and J. M. Renton, M.A., Berwickshire—equal; 42. Launcelot P. More, Rothwell; 43. J. W. Wilson, England; 44. James Allan, Linlithgow; H. R. L. Davies, Liverpool; S. Edgerley, West Africa; and J. L. Macrae, Scotland—equal; 48. George Bill, Victoria; 49. Edmund Hay, Poland; 50. F. T. Griffin, Southampton; James Miller, Falkirk; and W. S. Syme, Newfoundland—equal; 53. J. T. Mackay, Dumfries; 54. J. C. Rossie, Stromness; 55. T. C. Guthrie, Liberton; Wm. Mill, New Zealand; and D. S. Morrison, Argyllshire—equal; 58. F. Gourlay, Edinburgh; F. Van Langenberg, Ceylon; Cecil A. Morgan, Wales; and T. D. Walker, Canada—equal; 62. S. B. F. Bulteel, England; Mirza Karim Khan, Hyderabad; and Alexander Schorn, Calcutta—equal; 65. J. M. Martin, Strathavon; 66. T. H. Bishop, Gloucestershire; 67. W. Clayton Grosvenor, Glasgow.

JUNIORS.

First-Class Honours.—1. W. J. Garbutt, Darlington; 2. Thomas Gibson, M.A., Perth; 3. William M'D. Selby, Wigtownshire; 4. R. J. Johnston, Edinburgh; 5. John Steed, Baldock (*Medallists*); 6. T. A. Clinch, London; 7. C. Crerar, Maryport; 8. J. Rutherford Gilmour, Edinburgh; 9. George Johnston, Lochmaben; 10. A. H. Moorhead, Edinburgh; 11. R. H. Makgill, New Zealand; 12. John B. Duff, Edinburgh; 13. J. P. Stewart, Edinburgh; 14. R. Craig Dun, Warwickshire; 15. John Kippax, Burnley; 16. Frederick P. Hearder, Carmarthen; 17. W. F. M'Alister-Hewlings, Leicester; 18. Robert Ward Briggs, Derby; 19. Cooper Hardcastle, New South Wales; 20. William Mailer, Perth; 21. J. T. Grant, Edinburgh; 22. W. T. Grant, Dundee.

Second-Class Honours.—23. E. K. Fraser, Hull; 24. William B. Craig, M.A., Musselburgh; 25. W. B. Turnbull, Haddington; 26. E. Percival Dicken, Northampton; 27. Andrew Balfour, Edinburgh; 28. Lachlan Grant, Argyllshire; 29. H. M'Donald, Leith; 30. Tom B. Moore, B.A., California; 31. D. S. Johnston, Inverness-shire; 32. E. Ireland, Tasmania; 33. A. M. N. Pringle, Aberdeenshire; 34. E. C. Edwards, Woodbridge; 35. Arthur Paget Stevenson, Darlington; 36. Hugh Douglas, Newcastle; 37. C. J. H. Aitken, Edinburgh; 38. James Wishart, Largs; 39. T. R. Scott-Sibbald, Dumfriesshire; 40. Fred Vincent Thomas, Calcutta; 41. W. C. Anderson, Scotland; 42. C. W. Branch, St Kitts; 43. Andrew Croll, Forfarshire; 44. A. I. Fleming, Edinburgh; 45. Frank B. Oliphant, Surrey; 46. James G. M'Naughton, Bathgate; 47. S. W. Prouse, Prince Edward Island; 48. David Thomas,

Dumfriesshire; 49. James G. Walker, Calcutta; 50. Sidney H. Hall, Carlisle; 51. John C. Caldwell, Edinburgh; 52. W. Russell Strapp, Natal; 53. G. C. Laing, Edinburgh; 54. George A. Murray, Edinburgh; 55. Robert T. Davidson, Edinburgh; 56. W. R. Jackson, Perth; 57. John Lawrie, Ayr; 58. George A. Dickson, Edinburgh; 59. John Hume, Perth; 60. Thomas A. Glover, Maxwelltown.

PRACTICAL SURGERY.

SENIORS.

MEDALLIST.—W. J. Walker, Port Adelaide.

PROXIME ACCESSERUNT.—John Anderson, Shetland; H. A. Clark, Calcutta; E. J. W. Carruthers, Inverness; Alfred Duke, M.A., Forfarshire; George Elder, East Lothian; Frank Grenier, Ceylon; Edward Kinmont, Melrose; R. Murray Leslie, M.A., B.Sc., Ross-shire; D. Macmillan, New Galloway; N. P. Watt, M.A., Banff.

DAVID WALLACE, M.B., *Demonstrator.*

JUNIORS.

MEDALLIST.—Thomas Gibson, M.A., Perth.

PROXIME ACCESSERUNT.—John B. Duff, Edinburgh; R. Craig Dun, Warwickshire; T. A. Clinch, London; C. Crerar, Maryport; W. J. Garbutt, Darlington; J. Rutherford Gilmour, Edinburgh; W. Y. Grant, Dundee; W. F. M'Alister-Hewlings, Leicester; R. J. Johnston, Edinburgh; John Kippax, Burnley; William Mailer, Perth; A. H. Moorhead, Edinburgh; Frank B. Oliphant, Surrey; William M'D. Selby, Wigtownshire; W. Russell Strapp, Natal; C. G. Thompson, Berkshire; W. B. Turnbull, Haddington; J. Wishart, Largs.

HAROLD J. STILES, M.B., *Demonstrator.*

The following gentlemen were unavoidably absent from one of the examinations:—E. M. Steven, Montrose; Peter W. Shaw, Perthshire; R. S. Wilde, Edinburgh; Cecil Salt, Shrewsbury; C. G. Thompson, Berkshire; W. H. Mackenzie, Little Dunkeld.

CLASS ASSISTANTS.—R. C. Dun, Percy J. Henderson, C. G. Thompson.

JOHN CHIENE, M.D., *Professor.*

IX.—MIDWIFERY.

SENIORS.

FIRST-CLASS HONOURS.—1. J. Spurway, Kidderminster (*Medallist*); 2. F. W. Eurich, Saxony, and E. M. Steven, Montrose—equal; 4. D. Stuart, Strathspey; 5. J. Allan, Linlithgow.

SECOND-CLASS HONOURS.—6. R. J. E. Young, Edinburgh; 7. A. Rutherford, Dumfries; 8. F. W. Moss, India; 9. W. C. C. Kirkwood, Greenock.

JUNIORS.

1. R. Cran, Tain; 2. J. W. Bone, Newcastle-on-Tyne; W. Murray Cairns, Liverpool; and R. M. Leslie, M.A., B.Sc., Ross-shire—equal (*Medallists*); 5. G. Elder, Lanarkshire; H. S. Wanbrough Jones, Wrexham; and D. Macaulay, Ross-shire—equal; 8. P. W. Shaw, Perthshire; 9. John Anderson, Shetland, and J. T. Wilson, Australia—equal; 11. Alex. Brownlie, Inverness; 12. J. H. Crawford, Australia; 13. S. Edgerley, West Africa; L. G. Fink, Calcutta; D. Melville Dundee; and W. Murray, Montrose—equal; 17. James S. Anderson, Peterhead; J. A. H. Duncan, Inchture; John Grieve, Hawick; D. Macmillan, Kirkcubright; T. H. Milroy, Wigtonshire; and W. J. Walker, Port Adelaide—equal; 23. R. Davies, Hereford; D. J. Mackenzie, Inverness; A. Van Niekirk, South Africa; and N. P. Watt, Banff—equal; 27. F. W. Mackay, Hull; W. C. Milroy, M.A., Dumfriesshire; J. M. Renton, Berwickshire; and G. Templeton, Ayrshire—equal; 31. G. E. Clemons, Tasmania; 32. E. Hay, Poland; J. Orr, Edinburgh; A. F. Rosa, Edinburgh; and T. M. Wilson, Dundee—equal; 36. J. C. Brown, Leith; E. B. Fuller, Cape Town; A. Hendry, Braemar; L. P. More, Bothwell; and W. G. Putnam, Nova Scotia—equal; 41. T. H. Bishop, England; E. Kinmont, Inverness; J. F. Robertson, Lerwick; W. F. Robertson, Roxburghshire; E. W. Slayter, Nova Scotia; and W. S. Syme, Newfoundland—equal; 47. S. A. Shiach, Elgin, and R. M. Williams, North Wales—equal.

SECOND-CLASS HONOURS.—49. J. Cowan, New Galloway; T. Parry, Wales; and J. B. Scott, Fifeshire—equal; 52. J. F. Crombie, North Berwick; C. W. Donald, Orkney; and A. Duke, Forfarshire—equal; 55. J. M'Clymont, Manchester, and J. F. Macdonald, Edinburgh—equal; 57. J. J. Brennan, Australia; H. E. Fraser, Inverness; C. J. Gomes, Demerara; A. H. MacMorran, Scotland; P. S. C. More, England; and T. D. Walker, New Brunswick—equal; 63. James Anderson, Scotland; S. C. Brush, Newburgh-on-Tay; J. S. Fowler, Fifeshire; F. Grenier, Ceylon; G. Johnston, Carlisle; E. S. Littlejohn, Sydney; A. M'Ewen, Crieff; C. Martin, Middlesborough; W. Mill, New Zealand; D. S. Morrison, Argyllshire; J. G. Smith, Scotland; G. S. Walton, Wakefield; D. Wield, Ayr; and E. S. Yonge, Mauritius—equal; 77. D. Campbell, Edinburgh, and A. J. Mackintosh, Kingussie—equal; 79. G. Butters, Newburgh-on-Tay; W. C. Grosvenor, Glasgow; A. Ingram, Stranraer; R. Knox, Leith; J. Sharp, Keith; and F. A. Symons, Nova Scotia—equal; 85. T. C. Guthrie, Scotland; C. H. Passman, Scotland; and W. J. J. Stewart, Lockerbie—equal; 88. F. Van Langenberg, Ceylon, and J. Millar.

Stirlingshire—equal ; 90. G. Bill, Victoria ; 91. G. D. Darlington, Edinburgh ; H. B. Knox, Haiti ; and J. T. Thyne, Edinburgh—equal ; 94. T. M. Martin, Scotland ; 95. G. B. Anderson, Dumfriesshire ; 96. C. R. Nair, Malabar ; 97. H. B. Jones, Wales, and H. S. Walker, England—equal ; 99. R. H. Drennan, Ireland.

The following were able to be present at only two of the examinations, and are arranged in the order of merit :—

G. E. Helme, Lancaster ; W. Adam, Dingwall ; T. G. Matthews, Appleby ; J. D. R. Munro, Cheshire ; F. T. Auden, Shropshire ; R. O. Petrie, Dundee ; W. H. Gregory, Manchester.

OPERATIVE MIDWIFERY AND GYNECOLOGY.

SUMMER SESSION, 1890.

FIRST-CLASS HONOURS.—Carstairs C. Douglas, Kirkcaldy (*Medallist*) ; Wm. Paterson, Kilmarnock ; J. Howard Jones, Wales ; A. S. Duncan, Montrose.

A. R. SIMPSON, M.D., *Professor.*

X.—PRACTICE OF PHYSIC.

SENIOR.

FIRST-CLASS HONOURS.—1. John Orr, Edinburgh ; 2. John Spurway, Kidderminster ; 3. John W. Bone, Newcastle-on-Tyne (*Medallists*) ; 4. Harry Rainy, Glasgow ; 5. F. W. Eurich, Saxony ; 6. T. H. Milroy, Wigtownshire ; 7. A. Stodart Walker, Birkenhead.

SECOND-CLASS HONOURS.—8. John Livingstone, Perth ; 9. A. Irby Webster, Lincolnshire ; 10. Duncan M'Neill, Campbeltown ; 11. E. J. W. Carruthers, Inverness ; 12. H. M. MacGill, Musselburgh, and H. Torrance Thomson, Edinburgh—equal ; 14. H. W. Crosse, Norwich ; 15. Wakefield MacGill, Musselburgh ; 16. C. Cochrane, Worcester ; David Stuart, Strathspey ; and R. J. E. Young, Edinburgh—equal ; 19. Thomas F. Macdonald, Edinburgh, and J. S. Maynard, Suffolk—equal ; 21. R. P. Cockburn, India, and G. T. Guild, Fifeshire—equal ; 23. John Anderson, Shetland, and Mirza Karim Khan, Hyderabad—equal ; 25. H. P. Hannay, England ; 26. G. L. K. Pringle, Edinburgh, and J. C. Rossie, Orkney—equal ; 28. D. Bayne Crerar, Perthshire ; F. D. Fisher, Workington ; and F. T. Griffin, Southampton—equal ; 31. H. R. Lloyd Davies, Liverpool ; Thomas R. Henderson, Dumfries ; Robert Lamb, New Zealand ; and M. A. Reid, Australia—equal ; 35. Hugh A. Clark, Calcutta ; 36. James B. Smith, and F. S. Zaytoun, Syria—equal ; 38. R. B. Martin, Carluke ; 39. James Allan, Linlithgow ; A. Bienemann, Brighton, and J. L. Macrae, India—equal ; 42. T. M. Bassano, London, and Percy Capper, Liverpool—equal ; 44. James M. Walls, Scotland ;

45. E. B. Garland, England ; John V. Hulme, Staffordshire ; and J. W. Wilson, Sunderland—equal ; 48. Ahmed Mirza, Hyderabad ; Cecil A. Morgan, Wales ; and P. W. Schmidt, Yorkshire—equal.

PRESENT AT TWO EXAMINATIONS.

First-Class Honours.—1. E. Miller Steven, Montrose ; 2. G. Edgar Helme, Lancaster.

Second Class Honours.—3. J. T. M'Kay, Dumfries.

JUNIOR.

First-Class Honours.—1. Robert Cran, Tain, and George Elder, Lanarkshire—equal ; 3. H. S. Wansbrough Jones, Wales ; 4. George E. Clemons, Tasmania ; 5. E. B. Fuller, Cape Town (*Medallists*) ; 6. John T. Wilson, Australia ; 7. William Thyne, London, and T. Miller Wilson, Scotland—equal ; 9. Richard Davies, Hereford ; 10. T. H. Bishop, England ; 11. D. J. Mackenzie, Scotland, 12. James S. Anderson, Peterhead ; Samuel Edgerley, West Africa ; and Frank Grenier, Ceylon—equal.

Second-Class Honours.—15. Alexander Brownlee, Inverness ; John Grieve, Hawick ; William C. Milroy, Dumfriesshire ; P. W. Shaw, Perthshire ; and George Templeton, Kilmarnock—equal ; 20. Sidney Hillier, England ; 21. David Macmillan, Kirkcudbright ; 22. James Anderson, Scotland ; Hight Blundell, London ; John Cowan, New Galloway ; Edmund Hay, Poland ; John Maclaren, Scotland ; W. Murray, Montrose ; and S. A. Shiach, Elgin—equal ; 29. Charles Frier, Northallerton, and Lancelot P. More, England—equal ; 31. Alford W. Anderson, St Andrews ; John Sharp, Keith ; and John Sutherland, Stirlingshire—equal ; 34. H. E. Fraser, Inverness ; Alexander Hendry, Braemar ; and W. F. Robertson, Roxburghshire—equal ; 37. W. G. Putnam, Nova Scotia ; 38. S. C. Brush, Dundee ; Ralph S. Ferguson, England ; Lawrence G. Fink, Calcutta ; and John B. Scott, Fifeshire—equal ; 42. J. Frank Crombie, North Berwick ; Alfred Duke, Forfarshire ; John A. H. Duncan, Inchture ; Robert Knox, Leith ; L. J. Lamrock, Australia ; R. Murray Leslie, Ross-shire ; and A. J. Mackintosh, Kingussie—equal ; 49. A. Ingram, Scotland ; Alexander M'Ewan, Crieff ; Albert F. Rosa, Edinburgh ; E. W. Slayter, Nova Scotia ; and J. W. Williams, New Zealand—equal ; 54. E. M. Nicholl, India, and M. Emin, India—equal ; 56. H. B. Hall, England ; R. B. Huxtable, New Zealand ; Fred. W. Mackay, Hull ; and F. S. J. Oddie, England—equal ; 60. J. H. Crauford, Australia ; 61. George Bill, Victoria ; Edward S. Littlejohn, Sidney ; John M'Clymont, Scotland, and L. T. Parry, Wales—equal ; 65. S. H. Hartley, Bradford ; A. Jamieson Meikle, Scotland ; and W. J. J. Stewart, Lockerbie—equal ; 68. George Butters, Newburgh ; W. Peart Thomas, England ; David Wield, Ayr ; and Gerald S.

Walton, Yorkshire—equal; 72. W. H. Pimblett, Lancashire; J. G. Smith, Dundee; and Eugene S. Yonge, Mauritius—equal; 75. A. H. Hopkins, Ireland, and Frederick L. Pochin, Leicestershire—equal; 77. R. P. Dawson, Fifeshire; F. Van Langenberg, Ceylon; James G. Macindoe, Rothesay; A. H. M. Macmorran, Scotland; and Duncan S. Morrison—Argyle; equal; 82. Henry P D. A. Benson, Queensland, and Frank A. Symons, Halifax, Nova Scotia—84. Lawrence Bowman, New Zealand, and W. S. Campbell, Argyllshire—equal; 86. Charles Martin, Middlesborough, and David Melville, Dundee—equal; 88. C. J. Gomes, Demerara, and Henry B. Knox, Port-au-Prince—equal.

The following were absent from one examination :—

SECOND-CLASS HONOURS.—1. D. R. Munro, Cheshire; 2. C. A. Sturrock, Edinburgh; 3. W. J. Walker, Port Adelaide; 4. R. M. Williams, Wales; 5. T. N. Macgowan, Clifton, and T. G. Matthews, England—equal; 7. R. O. Petrie, Dundee; 8. Walter Adam, Dingwall; 9. Frank T. Auden, Shrewsbury.

T. GRAINGER STEWART, M.D., *Professor.*

XI.—MEDICAL JURISPRUDENCE.

SUMMER SESSION, 1890.

FIRST-CLASS HONOURS.—1. James L. Davidson, M.A.; 2. George Bill, Robert Cran, and George Templeton (*Medallists*)—equal; 5. John A. H. Duncan; 6. James C. Whyte; 7. Richard Davies; 8. David Stuart.

SECOND-CLASS HONOURS.—9. C. J. Gomes and James K. D. Ingram—equal; 11. Laurence G. Fink; 12. Albert F. Rosa and D. D. Tindal—equal; 14. T. B. Brierley; 15. R. J. Johnston and William C. Milroy—equal; 16. Walter Adam; 17. Laurence Bowman and J. H. Crawford—equal; 20. D. J. Mackenzie and John L. Martin—equal; 22. John Anderson and J. D. R. Munro—equal; 24. T. Miller Wilson; 25. Harry Rainy; 26. E. R. Parry; 27. R. P. Dawson, Alexander Hendry, and A. H. M. Macmorran—equal; 30. J. Livingston; 31. H. J. Walker; 32. T. G. Matthews, W. F. Robertson, and John B. Scott—equal; 35. S. A. Shiach; 36. Fred J. H. Hare, B.Sc., and Gerald S. Walton—equal; 38. David Campbell, F. Van Langenberg, and A. J. Mackintosh—equal; 41. H. Weighton; 42. John A. Mackenzie; 43. David Wield; 44. William Sproule; 45. H. D. Mackenzie; 46. J. T. Thyne.

The following gentlemen took part in the first competition, and obtained the following percentages, but were prevented by University examinations from taking part in the second competition :—"Spontaneous Combustion," 77; J. W. Williams, 77; Charles Frier, 75; Frank Grenier, 73; Charles Martin, 73; S. Edgerley, 71; C. Mac-

master, 68; J. M. Renton, 68; Alfred Duke, 67; Edmund Hay, 66; W. J. Walker, 66; John Cowan, 61; D. S. Morrison, 60; Alexander Stuart, 60; George Butters, 59; M. H. Foye, 69; A. M. M'Donald, 59; Edward S. Littlejohn, 58; W. C. Grosvenor, 53; "Hypostasis," 50.

DOUGLAS MACLAGAN, Kt., M.D., *Professor.*

SPECIAL COURSE IN PUBLIC HEALTH.

Winter Session, 1890-91.

First-Class Honours.—1. George Elder; 2. Robert Cran (*Medalists*); 3. Alexander Hendry; 4. S. Edgerley; 5. David Stuart and D. Macmillan—equal; 7. Peter W. Shaw; 8. R. J. Johnston; 9. D. W. Currie; 10. W. M'Lean, D. J. Mackenzie, and Harry Rainy—equal.

Second-Class Honours.—13. John Grieve, Edmund Hay, and Lancelot P. More—equal; 16. J. H. Crawford, Richard Davies, George Hennan, and T. Miller Watson—equal; 20. George Bill, S. C. Brush, William C. Milroy, and George Templeton—equal; 24. James S. Anderson, G. Edgar Helme, Charles Macmaster, and David Wield, M.A.—equal; 28. John Anderson, D. Campbell, John Cowan, W. M. D. Gallie, S. A. Shiach, and John T. Wilson—equal; 34. A. Ingram, D. S. Morrison, Albert F. Rosa, and J. D. Williams—equal; 38. George Johnston, Charles Martin, and Gerald S. Walton—equal; 41. George E. Clements, J. Livingstone, and W. J. Walker—equal; 44. T. B. Brierley, W. J. J. Stewart, and Charles Stuart—equal; 47. Lawrence G. Fink; 48. John Maclaren; 49. George Butters and D. D. Tindal—equal; 51. J. Tod Thyne; 52. Robert M. Williams and James Allan—equal; 54. Alfred Duke, Paxton St Clair More, James Millar, J. MacFarlane, William Porteous, and Harry Whittome—equal; 60. M. Emin, A. H. M. Macmorran, "Hypoxanthin"—equal; 63. J. D. Maclean; 64. C. J. Gomes and M. Mackay—equal; 66. Walter C. C. Kirkwood, F. Van Langenberg, A. J. Mackintosh, and William Forsyth—equal; 70. R. P. Dawson, John A. H. Duncan, and T. L. L. Parry—equal; 73. G. Barnardo and John A. Mackenzie—equal; 75. W. Clayton Grosvenor and William Laidlaw—equal.

DOUGLAS MACLAGAN, Kt., M.D., *Professor.*

XII.—MENTAL DISEASES.

First-Class Honours.—1. Eugene S. Yonge, 2. J. J. Cowan (*Medallists*); 3. Claude B. Ker, W. A. Reid, and A. Maxwell Williamson, M.B., C.M.—equal; 6. E. H. Alexander, John Maclaren, and Henry Rainy, M.A.—equal; 9. J. A. Ewan, A. Chas.

E. Gray, and John Orr—equal; 12. Alexander Mitchell; 13. Francis Leonard Brown, M.A., J. L. Davidson, and Donald E. Campbell—equal.

SECOND-CLASS HONOURS.—16. A. L. Kerr and Henry J. Mackenzie—equal; 18. Sidney R. Webb; 19. Walter C. C. Kirkwood.

T. S. CLOUSTON, M.D., *Lecturer.*

XIII.—DISEASES OF THE EYE.

FIRST-CLASS HONOURS.—1. W. A. E. Tucker, South Australia, and Rowland Stanley Wilde, Winchester—equal; 3. Omar L. Kilborn, Canada (*Medallists*); 4. John W. Bone, Newcastle-on-Tyne, and J. R. Burnett, Carlisle—equal; 6. Herbert E. Lee, New South Wales, and Robert Cran, Ross-shire—equal; 8. Robert J. Ashton, Calcutta; 9. H. C. Garth, England; 10. David Stuart, Strathspey; 11. E. H. Alexander, New Zealand.

SECOND-CLASS HONOURS.—12. J. B. Shaw, Dalbeattie; 13. Theodore Shennan, Linlithgowshire; 14. W. Dickson, Stirling; 15. Robert Lamb, New Zealand; 16. John Maclaren, Glasgow; 17. Alexander Mitchell, Banffshire; 18. A. Stodart Walker, Birkenhead, and John Livingstone, Perth—equal; 20. A. Irby Webster, Lincolnshire; 21. L. S. Senhouse, Barbadoes.

D. ARGYLL ROBERTSON, M.D., *Lecturer.*

Examination Papers for Degrees in Medicine.

PRELIMINARY EXAMINATION FOR DEGREES IN MEDICINE AND SCIENCE.

ARITHMETIC.

Tuesday, 7th October 1890.—9 *to* 11 *o'clock.*

1. Find the cost of 5 tons, 12 cwt., 2 qrs., 14 lbs. at £1, 6s. 8d. per ton.

2. Find the L.C.M. of 9, 12, 30, 63, 18, 49, 70. Resolve 403920 into its prime factors.

3. From the sum of $\frac{1}{4}$ and $\frac{1}{3}$ take the sum of $\frac{1}{7}$ and $\frac{1}{5}$.

$$\text{Simplify } \frac{1+\frac{1}{3}+\frac{1}{9}}{1+\frac{1}{9}+\frac{1}{81}} \div \frac{\frac{1}{4}-\frac{1}{9}}{\frac{1}{2}-\frac{1}{3}}.$$

4. Multiply correctly to 5 places of decimals 3·004072905 by ·0512648.

Divide ·1 by ·0009.

5. Find the square root of 5·256 and ·2 to 3 places of decimals.

Two numbers multiplied together give 39347. The greater divided by the less gives 803 as a quotient. What are the numbers?

6. Divide 60 into 4 parts proportional to 1, $\frac{1}{4}$, $\frac{1}{9}$, and $\frac{1}{16}$.

7. One side of a triangular court is 97 feet, and the perpendicular on it from the opposite angle is 61 feet, what is the expense of paving it at 2s. 3d. per sq. yard?

8. Find the present value of £545 due 4 years 2 months hence at $3\frac{1}{4}$ per cent. simple interest.

9. Find the amount of £900 in 3 years at 5 per cent. compound interest, payable annually.

10. *A* and *B* work together for 4 days at a piece of work which they could complete in 12 days. *B* leaves, and *A* finishes the remaining work in 20 days. How long would it have taken *B* to do it alone?

Tuesday, 3rd March 1891.—9 *to* 11 *o'clock.*

1. Multiply £3, 17s. 9½d. by 3296.

2. Resolve into their prime factors 40887, 246015, and 11385, and find their G.C.M. and L.C.M.

3. Simplify (1) $(\frac{1}{2}+\frac{1}{3})-(\frac{1}{4}+\frac{1}{5})$.

(2) $\frac{\frac{1}{2}-\frac{1}{3}}{\frac{1}{2}+\frac{1}{3}}$ of $\frac{\frac{1}{4}-\frac{1}{5}}{\frac{1}{4}+\frac{1}{5}}$ of $\frac{\frac{1}{6}-\frac{1}{7}}{\frac{1}{6}+\frac{1}{7}}$.

4. Explain the two methods of arranging the process of multiplication.

Multiply 3·14159 by ·03462958 1 correctly to 6 decimal places.

5. Divide 39·01 by ·62459 to 5 decimal places.

A metre contains 39·371 inches; express to three decimal places the number of metres in a mile.

6. If 4 per cent. be lost by selling at 9d. per yard, what must be the price to gain 6 per cent.?

7. Find the discount on £1344, 8s. 0d. due 5 years hence at 4 per cent.

8. A person invests £5187, 10s. 0d. in the 3 per cents. at 83, and when the funds have risen to 84, he transfers £3052, 10s. to the 4 per cents. at 96; find the alteration in his income.

9. Find the sum of money which in 4 years at 2 per cent. compound nterest, payable annually, will amount to £100.

10. Divide 806 into three parts, such that when they are respectively divided by 3, 4, and 5, the quotients shall be in the proportion of 4, 5, and 6, and there shall be no remainders.

ELEMENTARY MATHEMATICS.

Tuesday, 7th October 1890.—11.30 *to* 1.30 *o'clock.*

1. If two triangles have the three sides of the one respectively equal to the three sides of the other, each to each, the triangles are identically equal.

Construct a triangle of which the three sides are given.

2. The exterior angle of any triangle is equal to the two interior and opposite angles, and the three interior angles are equal to two right angles.

What is the corresponding theorem for the angles of any polygon?

3. Construct a square equal to a given rectangle.

4. In the same circle, or in equal circles, equal angles at the centre or circumference stand on equal arcs.

5. The two tangents drawn from a given external point to a circle are equal.

If a quadrilateral circumscribe a circle, the sum of two opposite sides is equal to the sum of the two remaining sides.

6. Expand in powers of x

$$(1-x)^3(1+x)^4.$$

Expand and arrange symmetrically

$$(a+b+c)^2-(a-b+c)^2+(b-c+a)^2-(c-a+b)^2.$$

7. What must be the value of p that x^2+px+1 be divisible by $x+1$?

Resolve into factors

$$2x^2-3xy-2y^2$$

and $(x^2-y^2+xy)^2-(y^2-x^2+xy)^2$.

8. Reduce the following fractions to their simplest forms

(1) $$\frac{(x-1)^4+x^4+1}{(x-1)^2+x^2+1}$$

(2) $$\left(\frac{x}{1+x}+\frac{1-x}{x}\right)\div\left(\frac{x}{x+1}-\frac{1-x}{x}\right).$$

9. Solve the following equations

$$\frac{2x-1}{3}+\frac{3x-1}{4}=\frac{4x-1}{5}.$$

$$x+\frac{2}{y}=2x+\frac{1}{y}=6.$$

10. *A's* present age is two years more than twice *B's* age. When *B* reaches *A's* age, the sum of their united ages will be 101 years. Find the ages of *A* and *B*.

Tuesday, 3rd March 1891.—11.30 *to* 1.30 *o'clock.*

1. Define a parallelogram and a rectangle.

The opposite sides and angles of a parallelogram are equal to one another and either diagonal bisects it.

If the diagonals are equal, show that the parallelogram is a rectangle.

2. In any right-angled triangle the square which is described on the hypotenuse is equal to the squares on the sides.

Construct a square whose area shall be three times that of a given square.

3. Divide a straight line into two parts such that the rectangle contained by the whole line and one part may be equal to the square on the other part.

4. If two circles touch internally, their line of centres passes through a point of contact.

5. On a given straight line describe a segment of a circle containing an angle equal to a given angle.

Give a construction to determine a point at which the three sides of a triangle subtend equal angles.

6. Expand in consecutive powers of x

$$(1-x+x^2)\,(1-x^3+x^6) \text{ and } \left(x-\frac{1}{x}\right)^3.$$

Expand and arrange

$$(a+b-2c)^2+(a+c-2b)^2+(b+c-2a)^2.$$

7. Divide $x^5-1-5(x-1)$ by $(x-1)^2$.

Resolve into four simple factors

$$(ax+by)^2-(bx+ay)^2.$$

8. Find the L.C.M. of

$$1+x+x^2,\ 1+x^2+x^4, \text{ and } 1-x^3.$$

Simplify the fraction

$$\frac{x(2x+y)-y(2y+x)}{\dfrac{x-2y}{x}+\dfrac{y}{2x-y}}.$$

9. Solve the equations

$$(2x+1)(3x-2)-(2x-1)(x-2)=(4x+1)(x+1);$$

$$\frac{x}{4}+\frac{y}{3}=\frac{x}{3}+\frac{y}{4}+1=18.$$

10. A can do a certain piece of work in six days less than B, and he can do half of the work in one day less than he takes to do the whole along with B. Find the time in which A and B together do the work.

HIGHER MATHEMATICS.

Tuesday, 7th October 1890.—2 *to* 4 *o'clock.*

1. The straight line joining the middle points of the sides of a triangle is parallel to the base and equal to half of it.

If the diagonals of a quadrilateral are at right angles, the straight lines joining the middle points of opposite sides are equal.

2. Draw a tangent to a circle from a given external point.

In a given circle draw a chord of given length which shall pass through a given point.

3. In a right-angled triangle any rectilineal figure described on the hypotenuse is equal to the sum of two similar and similarly described figures on the sides.

If the figures described on the sides are semicircles, shew that the same relation holds.

4. ABC is a triangle inscribed in a circle whose radius is R. If p be the perpendicular from the vertex A upon the opposite side BC, show that $AB.\ AC=2Rp$.

a, a and b are the sides of an isosceles triangle. Find the radius of its circumscribing circle in terms of a and b.

5. In any trihedral angle the sum of two of its faces is greater than the third.

6. Shew that in a central conic the tangent makes equal angles with the focal distances.

Given a tangent, its point of contact, the length of the major axis and one focus, find the other focus.

7. Write down the most general homogeneous integral function of the second degree in the variables x, y, z.

Find the coefficient of x^7 in $(1-x+x^2)^5$.

Shew that

$$[x^2-y^2+3x(2x+y)]^2-[y^2-x^2+3y(2y+x)]^2=48(x+y)(x^3-y^3).$$

8. Simplify the fractions

$$\frac{65x^2y^2-(x^4+64y^4)}{x^2-7xy-8y^2}$$

and

$$\frac{(x-a)^2}{(a-b)(a-c)}+\frac{(x-b)^2}{(b-c)(b-a)}+\frac{(x-c)^2}{(c-a)(c-b)}.$$

9. Form the equation, with rational coefficients, which has $\sqrt{3}-1$ and $\sqrt{3}+1$ for its roots.

Solve the equations

(1) $\dfrac{a}{x-a}+\dfrac{b}{x-b}=\dfrac{2c}{x-c}$.

(2) $\sqrt{5a+x}+\sqrt{5a-x}=\sqrt{10a+2b}$.

10. Find the sum of the following series to n terms

$$1+2+3+\ldots$$
$$1\cdot2+2\cdot3+3\cdot4+\ldots$$

11. If $\sin\theta=\frac{1}{9}$, find the value of $\sin 2\theta$ and $\sin\frac{\theta}{2}$.

How many values has the latter?

If $\sec(\theta+\alpha)=a$, and $\sec(\theta-\alpha)=b$, then $\tan\theta\tan\alpha=\frac{a-b}{a+b}$.

12. Prove that $\cos(A-B)=\cos A\cos B+\sin A\sin B$ for all values of A and B less than 90°. How is the formula extended to angles of any magnitude?

If $A+B+C=\pi$, show that

$$4\cos\frac{\pi+A}{4}\cos\frac{\pi+B}{4}\cos\frac{\pi+C}{4}=\sin\frac{A}{2}+\sin\frac{B}{2}+\sin\frac{C}{2}-1.$$

Tuesday, 3rd March 1891.—2 *to* 4 *o'clock.*

1. Triangles on the same base and between the same parallels are equal.

Give a construction for converting any plane polygon into a triangle of equal area.

2. Describe an isosceles triangle which shall have each of the angles at the base double the third angle.

By means of the figure show that $\sin 18°.\ \sin 54°=\frac{1}{4}$.

3. Construct an equilateral triangle equal to a given square.

4. The rectangle contained by the diagonals of a cyclic quadrilateral is equal to the sum of the rectangles contained by its opposite sides.

Find, in terms of its sides, the distance of the vertex of a right-angled triangle from the middle point of the square on its hypotenuse.

5. If two straight lines be cut by parallel planes, they shall be cut in the same ratio.

6. Given the focus and directrix of a parabola, show how to find any number of points on the curve.

Given the focus and two points on the curve, find the directrix.

7. Investigate directly the condition that x^3-px+q should be divisible by $x-a$.

Find the simple factors of

$$(bcx+acy+abz+xyz)^2-(ayz+bzx+cxy+abc)^2.$$

8. Simplify

(1) $$\frac{xy}{(x^2-y^2)^2}\left(\frac{x+2y}{y}-\frac{x}{2x+y}\right)\left(\frac{x-2y}{x}+\frac{y}{2x-y}\right).$$

(2) $$\frac{x+a}{a(a-b)(a-c)}+\frac{x+b}{b(b-c)(b-a)}+\frac{x+c}{c(c-a)(c-b)}.$$

9. Find the limits between which p must lie, in order that the equation $px^2 - 2(p-1)x + p + 1 = 0$ may have both its roots real.

Solve (1) $\frac{1}{x+a} + \frac{2}{x+2a} + \frac{3}{x+3a} = 0.$

(2) $\sqrt{x^2+ax-1} + \sqrt{x^2+bx-1} = \sqrt{a} + \sqrt{b}.$

10. Prove the rule for finding the value of a recurring decimal as a vulgar fraction. Find the nth term, and the sum of the series $1 - \frac{1}{2} + \frac{1}{4} - \frac{1}{8} + \ldots$ to n terms.

11. Prove geometrically, for angles less than 90°, the formula $\sin(A-B) = \sin A \cos B - \cos A \sin B$.

If $A + B + C = 180°$, show that

$$\frac{\sin 2B - \sin 2C}{\sin 2B + \sin 2C} = \frac{\tan(C-B)}{\tan A}.$$

12. In any triangle show that $\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c} = \frac{1}{2R}$.

Show also that

$\cot A + \cot B + \cot C = \frac{a^2+b^2+c^2}{4\Delta}$ where the symbols have the usual meanings.

ENGLISH.

Wednesday, 8th October 1890.—9 *to* 11 *o'clock.*

1. Take down the following passage, attending carefully to spelling and to pointing:—

(*Passage to be dictated here.*)

2. Write a brief Essay, neatly expressed and well punctuated, on *either* of the following subjects:—

(1) The choice of a Profession.
(2) How to succeed in Work.

3. Distinguish between a *noun* and a *pronoun*. State and exemplify the various meanings of "who." Give the precise grammatical interpretation of "it" in each of the following connexions:—"They spoke of freedom, but *it* is not possible to say what exactly they meant by *it*; for, although *it* was a clear case for definition, no definition was offered."

4. Indicate the leading sources of the English Vocabulary. Derive —*April, blame, blank, daisy, melancholy, school.*

5. Discriminate:—

(1) Play, pastime, game, sport.
(2) Delusion, illusion, hallucination.
(3) Inspection, scrutiny, survey.

In the sentence, "There was a *flaw* in the workmanship," substitute for "flaw" (1) *defect*, (2) *fault*, and bring out in either case the precise difference in meaning.

6. Define a sentence. Which are the emphatic parts in a sentence; and what is the rule with regard to the proper placing of words in a sentence? Criticize the following, from the side of composition:—"I have only been studying English Composition for a brief space, but have tried to carry all away from the instructions of my teacher that I could; yet my progress, what it is, I can hardly say."

7. In sailing down the Clyde from Glasgow to Rothesay, what counties do you pass? In what counties are Manchester, Stratford-on-Avon, Bangor, Cardiff, Belfast, Killarney? Trace the course of the Ganges, and mention the chief towns on that river. What do you know about Benares, Agra, and Delhi?

8. Mention three great writers in the Elizabethan period of English Literature, and give some account of any one of them.

Mention the leading historical events in the reign of Queen Anne. What is the place of Lord Clive and Warren Hastings, respectively, in the building up of the Indian Empire?

Wednesday, 4th March 1891.—9 *to* 11 *o'clock.*

1. Take down the following passage, attending carefully to spelling and to punctuation:—

(*Passage to be dictated here.*)

2. What are the uses of the comma and the semi-colon in punctuation, and when is the colon to be employed? Give practical illustration of the correct employment of each in a Short Essay on either of the following subjects:—

(1) The Pleasures of Knowledge.

(2) The uses and abuses of Rivalry or Competition in life.

3. Classify Adverbs, and give examples of each class. What is meant (1) by Exclusive (2) by Illative Conjunctions? Exemplify.

4. Give the leading Sources of English words. Derive:—*Aught, earth, heaven, sky, trite, thing.*

5. Mention the various kinds of words that cannot, strictly speaking, be defined. What do you understand by the "discrimination of synonyms;" and why is "discrimination" the proper term here, not "distinction"?

Discriminate between:—

(1) Wit and Humour.

(2) Clear and Distinct.

(3) Rational, Reasonable, Reasoning.

(4) Burning, Glowing; Fiery, Scorching.

6. What is wrong in the English of each of the following sentences, and why?

(1) One may live long and achieve much, but he will seldom or

ever have to congratulate himself on unqualified success in anything.

(2) One of the doors of the house looked very badly crusted (as it were), and as if it would be all the better of a scrape.

(3) I have little doubt that we would die of shame and grief at the indignities offered us by age, if it was not that we see so many others as bad or worse off as ourselves.

(4) What would you think of a lover who would describe the idol of his heart in the language of science?

7. Draw a rough outline map *either* (1) of Scotland, *or* (2) of Africa, and fill in as best you can.

8. State what you know about the poetry of Chaucer, and about the prose writings of Sir Walter Scott.

Give some account of the Rye House Plot, of the Scottish Covenanters, and of the Indian Mutiny.

NATURAL PHILOSOPHY.

Wednesday, 8th October 1890.—11.30 *to* 1.30 *o'clock.*

1. Explain how the Conservation of Energy is illustrated in the motion of a pendulum.

The bob of a pendulum rises and falls through the vertical space of 3 inches, calculate its greatest speed in feet per second.

2. Distinguish between a sound and a musical note. Describe any method of finding the pitch of a note.

3. Draw a diagram to show the course of a pencil of rays from an object seen by reflection in a plane mirror to the eye.

4. State the elementary facts of Fluorescence, and show how they have been explained.

5. Explain why, in a sudden frost, shallow water freezes more quickly than deep water.

6. Define specific heat.

A lb. of iron at 99° C. is immersed in a lb. of water at 0° C., and it is found that the common temperature of the two is 9° C.; find the specific heat of iron.

7. Describe the gold-leaf electroscope. How would you electrify it *positively* (*a*) by conduction, (*b*) by induction?

8. Describe the construction and action of a Grove's battery, and mention the advantages of this arrangement.

9. What is meant by the terms "Volt" and "Ampere"?

Wednesday, 4th March 1891.—11.30 *to* 1.30 *o'clock.*

1. What is meant by the term *osmose?* Describe an experiment to show that light gases pass more rapidly through a porous membrane than denser gases.

2. What are the physical causes of the "pitch" and "quality" of a musical note? Have they any analogies in the theory of light?

3. What are the two forms of air thermometer? Point out the advantages which such a thermometer possesses.

4. The latent heat of fusion of ice is 80, and of evaporation is 537. Explain clearly what is meant by these statements. Find how many pounds of ice at 0° C. would be melted by a pound of steam at 100° C.

5. Explain the physical cause of the colours of bodies. What is meant by the "theory of exchanges"?

6. Draw a diagram to show the position of the image and the path of the rays by which an eye sees a luminous object after reflection, (1) at one plane mirror, (2) at each of two mirrors.

7. Describe the elementary phenomena of static electrical induction. How is it shown that the whole quantity of electrification induced by a charged conductor upon a second conductor which surrounds it is equal and opposite to the inducing charge?

8. Describe a simple voltaic cell. Point out its defects, and the modes in which they can be remedied.

MECHANICS.

Wednesday, 8th October 1890.—2 *to* 4 *o'clock.*

1. Define Velocity. Explain the principle upon which velocities are compounded. A point has three component velocities parallel to the sides of an equilateral triangle taken in order, and equal to 1, 2, and 3 units respectively. Find its resultant velocity.

2. How is a uniform acceleration measured? A stone thrown upwards rises 200 feet in 2 seconds. What was its initial velocity, and how high will it rise?

3. Define *momentum* and *force*, and show how they are related. Find the speed, in feet per second, which would be produced by a force of 1 lb. weight acting on a mass of 10 lbs. (originally at rest) for one minute.

4. Enunciate the law of gravitation. What are the causes which make gravity less at the equator than at any other part of the earth's surface?

5. When is a force said to "do work"? A bullet, weighing 1 oz., is discharged from a rifle with a velocity of 1200 feet per second. If the length of the barrel be 3 feet, find, in pounds weight, the average force acting on the bullet in the barrel.

6. Investigate the rule for weighing with a balance whose arms are unequal.

7. A piece of copper (sp. gr. = 9) weighs 18 oz. in vacuo; what is its weight in water?

8. Find the pressure at any depth below the surface of a heavy liquid. A cubical box, each of whose edges is 10 centimetres, is filled with water; find, in grammes, the whole pressures on the bottom and sides of the box. (1 cubic centimetre weighs 1 gramme.)

Wednesday, 4th March 1891.—2 *to* 4 *o'clock.*

1. Prove the triangle of velocities.

A point is moving due east with a speed of 10 units; find the direction and magnitude of the additional velocity which must be given to it, that it may move north-east with the same speed.

2. Define "acceleration" and "rate of change of momentum."

A stone is thrown upwards with a velocity of 1600 feet per second; how soon will it reach a height of 400 yards?

3. Give Newton's Second Law of Motion.

A certain force, acting on a mass of 10 lbs. for five seconds, produces a speed of 100 feet per second; find the speed it would produce in a mass of a ton, if it acted on it for five minutes.

4. Define the terms foot-poundal, foot-pound, and horse-power.

Find the horse-power required to draw a train of 150 tons, at 20 miles an hour, up an incline of 1 in 14, neglecting friction.

[1 horse-power = 550 in the usual units.]

5. Show how to find the resultant of two parallel forces.

Forces of 1, 2, 3 and 4 units respectively act along the sides of a square, taken in order; find the magnitude, direction, and point of application of their resultant.

6. Investigate the relation between the power and the weight in a system of three pulleys, where each hangs by a separate string. How does such an arrangement illustrate the Conservation of Energy?

7. Define specific gravity and density.

A certain mass of fluid (sp. gr. = 1·5) is mixed, without suffering contraction, with four times the mass of a second fluid (sp. gr. = 3); find the sp. gr. of the mixture.

8. In a heavy liquid show that the pressure is the same at all points in the same horizontal plane.

A square, whose side is 5 centimetres, is sunk in water till its centre of gravity is at a depth of 10 metres. Find, in grammes weight, the whole pressure on its surface (1) when it is placed horizontal, (2) when it is placed vertical.

[1 cubic centimetre of water weighs a gramme.]

LATIN.

Thursday, 9th October 1890.—9 *to* 11 *o'clock.*

I. Translate:—

(*a*) Quot casus exercitus victi fuerant, tot in curas dispertiti animi eorum erant, quorum propinqui sub C. Flaminio consule meruerant, ignorantium, quae cuiusque suorum fortuna esset. Postero ac deinceps aliquot diebus ad portas maior prope mulierum quam virorum multitudo stetit, aut suorum aliquem aut nuntios de iis opperiens; circumfundebanturque obviis sciscitantes, neque avelli, utique ab notis, priusquam ordine omnia inquisissent poterant. Inde varios vultus digredientium

ab nuntiis cerneres, ut cuique laeta aut tristia nuntiabantur, gratulantesque aut consolantes redeuentibus domos circumfusos.

(*b*) Inde rursus sollicitari seditione militari ac discordia consulum Romana castra, cum Paulus Semproniique et Flaminii temeritatem Varroni, Varro speciosum timidis ac segnibus ducibus exemplum Fabium obiceret, testareturque deos hominesque hic. nullam penes se culpam esse, quod Hannibal iam vel usu cepisset Italiam: ille, si quid proiectis ac proditis ad inconsultam atque improvidam pugnam legionibus accideret, se omnis culpae exsortem, omnis eventus participem fore diceret. Videret ut, quibus lingua prompta ac temeraria, aeque in pugna vigerent manus.

II. In the above passages parse fully, accounting in each case for the mood employed :—*inquisissent*, *cerneres*, *sollicitari*, *diceret*, *videret*.

III. Decline fully :—*vis*, *pelagus*, and *nix*.

IV. Write down the Latin Numerals (cardinal and ordinal) from *ten* to *twenty* inclusive.

V. Translate :—

Cum in expectatione senatus esset, bello etsi non indicto, tamen iam decreto, qui regum suam, Persei qui secuturi amicitiam essent, legati Ariarathis, puerum filium regis secum adducentes, Romam venerunt. Quorum oratio fuit, regem educendum filium Romam misisse, ut iam inde a puero adsuesceret moribus Romanis hominibusque: petere, ut eum non sub hospitum modo privatorum custodia, sed publicae etiam curae ac velut tutelae vellent esse. Egregie ea legatio grata senatui fuit; decreverunt, ut Cn. Sicinius praetor aedes locaret, ubi filius regis comitesque eius habitare possent.

IV. Translate into Latin: – Alexander, although he might justly have been angry (*irascor*), nevertheless granted pardon to all and received hostages; then he moved his camp to the next city. The hostages were led before the army; and, when the citizens recognised them from the walls as being (*utpote*) of the same race, they invited them to a conference (*colloquium*). The hostages by telling of the King's clemency (*clementia*) persuaded them to surrender. Thus Alexander received the submission of (*in fidem accipere*) the rest of the cities.

Thursday, 5*th March* 1891.—9 *to* 11 *o'clock.*

I. Translate, with *brief* explanatory notes :—

(1) Adspice convexo nutantem pondere mundum,
Terrasque, tractusque maris, coelumque profundum :
Adspice, venturo laetentur ut omnia saeclo.
O mihi tam longae maneat pars ultima vitae,
Spiritus et, quantum sat erit tua dicere facta !
Non me carminibus vincet nec Thracius Orpheus,
Nec Linus ; huic mater quamvis, atque huic pater adsit
Orphei Calliopea, Lino formosus Apollo.
Pan etiam, Arcadia mecum si iudice certet,
Pan etiam Arcadia dicat se iudice victum. .

(2) Audieras, et fama fuit : sed carmina tantum
Nostra valent, Lycida, tela inter Martia, quantum
Chaonias dicunt, aquila veniente, columbas.
Quod, nisi me quacumque novas incidere lites
Ante sinistra cava monuisset ab ilice cornix,
Nec tuus hic Moeris, nec viveret ipse Menalcas.

II. Parse fully *parcite—pascentur—nectitis—urit—vetabunt.*

III. Give the genitive and dative, singular and plural, of *merces—filia—domus—plus—uterque.*

IV. Translate :—

Tunc Rebilus, legatus Caesaris, quem Curio secum ex Sicilia duxerat, quod magnum habere usum in re militari sciebat, "perterritum," inquit, "hostem vides, Curio: quid dubitas uti temporis opportunitate?" Ille unum elocutus, ut memoria tenerent milites ea, quae pridie sibi confirmassent, sequi sese iubet et praecurrit ante omnes. Adeo erat impedita vallis, ut in ascensu nisi sublevati a suis primi non facile eniterentur. Sed praeoccupatus animus Attianorum militum timore et fuga et caede suorum nihil de resistendo cogitabat, omnesque se iam ab equitatu circumveniri arbitrabantur. Itaque priusquam telum abici posset, aut nostri propius accederent, omnis Vari acies terga vertit seque in castra recepit.

V. Translate into Latin :—

Once when Nasica called for (*venire ad*) the poet Ennius, the maid (*ancilla*) said that he was not at home, although Nasica knew he was in the house. A few days afterwards Ennius called for Nasica, and when he asked for him at the door (*janua*), Nasica called out that he was not at home. "What?" said Ennius, "Don't I know your voice?" "You are an impudent fellow (*homo*)," replied Nasica. "When I asked for you, I believed your maid that you were not at home; will you not take my own word for it?"

LOGIC.

Thursday, 9th October 1890.—11.30 *to* 1.30 *o'clock.*

[*The Candidate may take either Paper* A *or Paper* B, *but must confine himself to the Paper he has chosen.*]

A.

1. What is the correct meaning of the logical *Copula* (affirmative and negative)? How is *modality* to be regarded? Give examples of modal propositions.

2. Explain what is meant, in formal logic, by Classification, and state the logical rules to be followed in classifying. Give a clear account of *Scientific* classification, with an example.

3. What are the various kinds of Inference? Give the converse and the permutation of the propositions, (1) Man is a thinking animal; (2)

It is not an easy thing to fight a losing battle; (3) It is never too late to mend.

4. Reduce *Cesare*, *Bramantip*, and *Camenes* to the first figure. Complete the following syllogism, and express it duly in mood and figure:—"Beware of flattering words, for they are no infallible indication of a true friend."

5. Give a statement of the Double Method of Agreement, and elucidate your statement by references to examples.

6. What is meant by *inductio per enumerationem simplicem?* State precisely the meaning of Analogy, and indicate its exact scientific value.

B.

1. State Locke's standpoint in the *Essay concerning Human Understanding*. Show how Locke prepared the way for Berkeley.

2. What did Berkeley mean when he said that the objective connexion between a present phenomenon in sense and expected phenomena which it signifies is "arbitary"?

3. "Sense is the sole test of certainty." What may be inferred from this assumption? Discuss the validity of the assumption.

4. What is the kind of knowledge we may obtain of God? Explain and illustrate.

5. On what grounds has it been maintained that the argument for a future life drawn from the present prevalence of vice and injustice in the world is no real argument for the existence of God?

Thursday, 5th March 1891.—11.30 *to* 1.30 *o'clock.*

[*The Candidate may take either Paper* A *or Paper* B, *but must confine himself to the Paper he has chosen.*]

A.

1. Define Logic, and show its relation to Psychology.

2. What is meant by a *proposition*, and how is it distinguished from a mere grammatical *sentence?*

Express the following propositions in simple logical form, and mark the Quantity and the Quality of each:—

(1) Abandon hope all ye that enter here.
(2) Let no one enter who is ignorant of Geometry.
(3) None but the good are truly happy.
(4) There will be a volunteer review to-morrow.
(5) The Athenians were a wise people.

3. State and explain the Square of Opposition. From the proposition, "It is granted that no man willingly suffers pain," what immediate inferences may be drawn?

4. Supply premisses to the conclusion, "Some logicians are not good reasoners." What is meant by (1) ambiguous middle, (2) illicit process of major? Give examples of both.

5. State clearly the meaning of Inductive inference. What different uniformities may be established by Induction? Define *cause* and *causation*.

6. Give examples of the various forms of Imperfect Induction.

B.

1. Explain Descartes' *Cogito ergo sum*. What is meant by Cartesian Occasionalism, and by the Pre-established Harmony of Leibnitz?

2. Give some account of Locke's *Essay Concerning Human Understanding*, and show where Locke's teaching comes into contact with Berkeley's.

3. What is the kind of *proof* that the philosopher has to offer of the existence of God, and how does it meet the sceptic's position (as represented, for example, by Alciphron)?

4. What is Berkeley's conception of Outward Nature? Explain it specially in connexion with his doctrine of the perception of Distance.

5. State the Moral difficulty with regard to the Theistic position, and show how it may be met.

MORAL PHILOSOPHY.

Thursday, 9th October 1890.—2 *to* 4 *o'clock.*

1. Define Moral Judgment. Is it so that moral judgments differ essentially from (say) judgments of measurements? Explain and examine. Moralists agree that there are cases where it is right to tell untruth (*e.g.*, to an infuriated madman). How does this affect the doctrine of Absolute Morality?

2. Define and exemplify Intuition, and show its exact place in Morality.

3. Define Rightness and Obligation. State and exemplify the distinction between *perfect* and *imperfect* obligation.

4. Is it possible, on the supposition that our mental life consists in a series of sensory impressions, to account for the *continuity* of Consciousness and for Moral Obligation? Argue this point fully.

5. What is the law of the relation between Thought and Impulse in volition? Point out its exact ethical significance.

6. What is meant by Determinism? Examine the doctrine.

7. Write a brief Essay on Hobbes and his philosophy, making special reference to his teaching in Ethics.

GREEK.

Friday, 10*th October* 1890.—9 *to* 11 *o'clock.*

I. Translate :—

(1) καὶ πολλάκις τοίνυν πλείονας ὁμογνώμονας λαμβάνουσιν οἱ φαῦλοι ἢ οἱ σπουδαῖοι. ἡ γὰρ πονηρία διὰ τῶν παραυτίκα ἡδονῶν πορευομένη ταύτας ἔχει συμπειθούσας πολλοὺς αὐτῇ ὁμογνωμονεῖν· ἡ δ' ἀρετὴ πρὸς ὄρθιον ἄγουσα οὐ πάνυ δεινή ἐστιν ἐν τῷ παραυτίκα εἰκῇ συνεπισπᾶσθαι, ἄλλως

τε καὶ ἦν ἄλλοι ὧσιν ἐπὶ τὸ πρανὲς καὶ τὸ μαλακὸν ἀντιπαρακαλοῦντες. καὶ τοίνυν ὅταν μέν τινες βλακείᾳ καὶ ἀπονίᾳ μόνον κακοὶ ὦσι, τούτους ἐγὼ νομίζω ὥσπερ κηφῆνας δαπάνῃ μόνον ζημιοῦν τῆς κοινωνίας· οἳ δ' ἂν τῶν μὲν πόνων κακοὶ, ὦσι κοινωνοί, πρὸς δὲ τὸ πλεονεκτεῖν σφοδροὶ καὶ ἀναίσχυντοι, ἡγεμονικοί εἰσι πρὸς τὰ πονηρά· πολλάκις γὰρ δύνανται τὴν πονηρίαν πλεονεκτοῦσαν ἀποδεικνύναι· ὥστε παντάπασιν ἐξαιρετέοι ἡμῖν οἱ τοιοῦτοί εἰσι.

(2) μὴ μέντοι, ἔφη, ὦ Χρυσάντα, οὕτως αὖ ποίει ὥσπερ ἐνίοτε διὰ τὴν φιλοθηρίαν· πολλάκις γὰρ ὅλην τὴν νύκτα ἄυπνος πραγματεύει· ἀλλὰ νῦν ἐᾶσαι χρὴ τοὺς ἄνδρας τὸ μέτριον ἀποκοιμηθῆναι, ὡς ἂν δύνωνται ὑπνομαχεῖν· μηδέ γε, ὅτι οὐχ ἡγεμόνας ἔχων ἀνθρώπους πλανᾷ ἀνὰ τὰ ὄρη, ἀλλ' ὅπῃ ἂν τὰ θηρία ὑφηγῆται, ταύτῃ μεταθεῖς, μήτι καὶ νῦν οὕτω τὰ δύσβατα πορεύου, ἀλλὰ κέλευέ σοι τοὺς ἡγεμόνας, ἐὰν μὴ πολὺ μάσσων ἡ ὁδὸς ᾖ, τὴν ῥᾴστην ἡγεῖσθαι· στρατιᾷ γὰρ ἡ ῥᾴστη ταχίστη.

II. In the second of the above passages, parse fully—*ποίει, ἐᾶσαι, μεταθεῖς, μάσσων, ῥᾴστη.*

III. Decline *θάλασσα* and *γάλα* in the singular, *τεῖχος* and *ναῦς* in the plural, and *λεώς* throughout.

IV. Compare the following—*ἴδιος, πέπων, εὐτυχής, σαφῶς, σοφῶς.*

V. Write out the present indicative of *χράομαι*, the imperative of *οἶδα*, and the perfect indicative passive of *λαμβάνω.*

VI. Translate into Greek :—

(1) Xenophon knew that he would conquer the enemy, if his own soldiers were faithful (*πιστός*).

(2) She said that not she but her daughter had made the mistake (*ἁμαρτάνειν*).

(3) If night had not come on (*ἐπέρχομαι*), we should quickly have taken the city.

(4) When we have leisure (*σχολή*), we shall go to see the glorious (*κλεινός*) city of Athens.

(5) Do not go away until the rest arrive.

Friday, 6th March 1891.—9 *to* 11 *o'clock.*

I. Translate :—

(1.) ἃς δὲ σὺ λέγεις τὰς σκέψεις περί τε ἀναλώσεως χρημάτων καὶ δόξης καὶ παίδων τροφῆς, μὴ ὡς ἀληθῶς ταῦτα, ὦ Κρίτων, σκέμματα ᾖ τῶν ῥᾳδίως ἀποκτιννύντων καὶ ἀναβιωσκομένων γ' ἄν, εἰ οἷοί τε ἦσαν, οὐδενὶ ξὺν νῷ, τούτων τῶν πολλῶν. ἡμῖν δ', ἐπειδὴ ὁ λόγος οὕτως αἱρεῖ, μὴ οὐδὲν ἄλλο σκεπτέον ᾖ ἢ ὅπερ νῦν δὴ ἐλέγομεν, πότερον δίκαια πράξομεν καὶ χρήματα τελοῦντες τούτοις τοῖς ἐμὲ ἐνθένδε ἐξάξουσι καὶ χάριτας, καὶ αὐτοὶ ἐξάγοντές τε καὶ ἐξαγόμενοι, ἢ τῇ ἀληθείᾳ ἀδικήσομεν ταῦτα πάντα ποιοῦντες· κἂν φαινώμεθα ἄδικα αὐτὰ ἐργαζόμενοι, μὴ οὐ δέῃ ὑπολογίζεσθαι οὔτ' εἰ ἀποθνήσκειν δεῖ παραμένοντας καὶ ἡσυχίαν ἄγοντας, οὔτε ἄλλο ὁτιοῦν πάσχειν πρὸ τοῦ ἀδικεῖν.

(2.) σὺ δὲ τότε μὲν ἐκαλλωπίζου ὡς οὐκ ἀγανακτῶν, εἰ δέοι τεθνάναι σε, ἀλλ' ᾑροῦ, ὡς ἔφησθα, πρὸ τῆς φυγῆς θάνατον· νῦν δὲ οὔτ' ἐκείνους τοὺς

λόγους αἰσχύνει, οὔτε ἡμῶν τῶν νόμων ἐντρέπει, ἐπιχειρῶν διαφθεῖραι, πράττεις τε ἅπερ ἂν δοῦλος φαυλότατος πράξειεν, ἀποδιδράσκειν ἐπιχειρῶν παρὰ τὰς ξυνθήκας τε καὶ τὰς ὁμολογίας, καθ' ἃς ἡμῖν ξυνέθου πολιτεύεσθαι. πρῶτον μὲν οὖν ἡμῖν τοῦτ' αὐτὸ ἀπόκριναι, εἰ ἀληθῆ λέγομεν φάσκοντές σε ὡμολογηκέναι πολιτεύεσθαι καθ' ἡμᾶς ἔργῳ, ἀλλ' οὐ λόγῳ, ἢ οὐκ ἀληθῆ. τί φῶμεν πρὸς ταῦτα, ὦ Κρίτων ; ἄλλο τι ἢ ὁμολογῶμεν ;

II. In the second of the above passages, parse fully *τεθνάναι—ἠροῦ—διαφθεῖραι—ξυνέθου—φῶμεν.*

III. Decline Ἑρμῆς and Ζεύς in the singular, *ὄρνις* and *κύων* in the plural, and *ἀνήρ* throughout.

IV. Compare the following :— *ψευδής — ἥσυχος — μέσως — μέλας — πέρα.*

V. Give the 3rd person plural of the present and imperfect indicative of *εἰμί—εἶμι—ἵημι—τίθημι—δίδωμι—ὁράω.*

VI. Translate into Greek :—

(1.) Never say what is not true. (2.) The soldiers all denied having seen such a man. (3.) If you are willing, it is possible (*ἔξεστι*) for you to escape. (4.) Let us advance as quickly as possible that the city may not be taken by the enemy. (5.) He said he would not have done this, if he had not thought he would help (*ὠφελεῖν*) you by so doing.

FRENCH.

Friday, 10*th October* 1890.—11.30 *to* 1.30 *o'clock.*

(N.B.—*Candidates are reminded of the regulation that mere translation into English is not sufficient, but there must be translation of an English passage into each of the languages taken up.*)

I. Translate into English :—

(*a*) Dumerbion lui demanda son épée et posta des gendarmes à la porte de son appartement, où entrèrent aussitôt plusieurs officiers supérieurs qui, voyant prisonnier celui qu'ils venaient saluer comme leur général, firent éclater, au péril de leur vie, une indignation chaleureuse : plusieurs même exhortèrent Hoche à se soustraire par la fuite à l'exécrable tribunal devant lequel tout prévenu était d'avance un condamné. Hoche s'y refusa. Il répondit qu'il se devait à lui-même de paraître devant ses accusateurs et qu'il ne voulait point donner un exemple qui pût servir d'excuse aux traîtres, dans l'avenir ou dans le passé. Il leur parla longtemps avec un sang-froid et une tranquillité qui ne se démentirent pas. Après avoir exposé de quelle manière il croyait que la guerre allait être conduite en Italie, il les pria, s'ils étaient de nouveau témoins de quelques grandes injustices sans doute inévitables, de ne pas suivre les conseils d'une irritation toujours funeste.

(*b*) Hoche, maître du pays, y distribua ses cent mille hommes dans une multitude de petits cantonnements pour le surveiller et l'enlacer d'un réseau de fer, et il acheva ainsi de le soumettre. Il lui restait à l'administrer et à le maintenir en paix. Il donna à ces soins quelques mois d'un gouvernement doux, habile, équitable, exempt de faiblesse comme de violence et, tandis que les hommes exaltés de tous les partis dénonçaient son administration comme provoquante et oppressive, il levait partout l'état de siége, abdiquait les pouvoirs extraordinaires dont il était investi et renonçait volontairement à la dictature.

II. Translate into French :—

In the face of so many dangers, Hoche conceived a new plan. He saw quite well that it was no longer by arms that they had to fight an enemy whom they could not get at (say *reach*) anywhere. The inhabitant of the Vendée, says the historian of the Revolution, was peasant and soldier at one and the same time. In the midst of the horrors of the civil war, he had not ceased to cultivate his fields and tend his cattle. His gun was at his side, hidden under the ground, or under straw. At the first signal of his chiefs he ran up (*accourir*), attacked the republicans, then scattered through the woods, returned to his fields, and hid again his gun ; and the republicans found only a peasant without arms in whom they could not recognise an enemy. While the Vendeans had always the means of living and recruiting themselves, the republican armies were in want of everything, and found themselves in the most horrible destitution.

III. 1. Give plural and meaning of *son neveu, du général, ce bel arc-en-ciel, c'est lui-même, qu'il pût ;* and singular and meaning of *ces oiseaux, tous les hommes, il percèrent, ils font.*

2. Give feminine and meaning of *ce beau lion, mon beau-fils, leur grand-père, quel homme affreux, tous les garçons.*

3. Give the French words for :—Charles the First, Henry the Eighth, 21 and 76 make 97, on the 15th of May 1890.

4. Exemplify the use of the partitive article by rendering into French :—some houses, fine houses, some high houses, some bread, some good bread, some water, fresh water.

5. Give the 3rd singular present, past definite (or preterite), and future of *vendre, decevoir, acheter, appeler, savoir, vouloir, mourir, mouvoir ;* and the 3rd plural present, past indefinite (or perfect) and future of *devoir, finir, aller, se venger.*

6. Write brief notices of any *three* of the following writers :—Fénelon, Racine, Boileau, Staël, Corneille, V. Hugo.

Friday 6th March 1891.—11.30 *to* 1.30 *o'clock.*

I. Translate into English :—

(*a*) Cette alliance dépassait de beaucoup les plus ambitieuses espérr ances des parents de la jeune fille ; mais Hoche voulut surtout l'obteni-d'elle-même, et pour s'assurer de son cœur, il lui écrivit ces lignes,

inspirées par le sentiment le plus délicat et le plus tendre : " Ma chère Adélaïde, le nœud qui va nous unir à moi est saint et sacré : ce n'est pas pour un moment que nous serons liés l'un à l'autre, c'est pour toujours ; pour toujours, songez-y bien ! Peut-être n'avez-vous point assez réfléchi à cet engagement. Ne voyez en moi qu'un simple citoyen : qu'un nom trop prôné par les gazettes ne vous fasse point désirer de devenir l'épouse d'un homme dont l'unique ambition est de vous rendre heureuse. Il est encore temps : si quelque objet avait pu vous frapper, dites un mot, je retire ma parole ; je me borne à rester votre ami et ne désire plus que votre estime. Faites librement cette confidence à un homme assez généreux et juste pour ne se plaindre que du sort. Si, au contraire, votre cœur n'a pas encore été touché, accordez-le à mon amour : en devenant mon épouse, devenez mon amie ! Ne jurons point ; promettons à la face de l'Etre créateur de ne jamais nous séparer. Je ne mentis jamais ; votre cœur me répondra de votre sincérite."

(*b*) La France couvrait alors ses frontières de jeunes républiques, et Bonaparte saisissait les imaginations par ses merveilleux exploits en Italie. Hoche, retenu par les pénibles soins de la pacification de l'Ouest, avait suivi de son ardente pensée le vainqueur d'Arcole à travers tous ses champs de victoire : " Glorieux jeune homme, s'écriait-il en se frappant le front, que je te porte envie ! " Il brûlait de faire d'aussi grandes choses, et de trouver un champ de gloire digne de son génie : il projetait donc de révolutionner l'Irlande, de la transformer en république ; puis de passer en Angleterre et de la frapper au cœur. Il fit adopter son projet par le gouvernement qui, après s'être concerté avec les chefs des révolutionaires irlandais, prépara à Brest une grande expédition dont Hoche eut le commandement.

II. Translate into French :—

Philip's eldest son, Lewis, died suddenly ; and the wily chamberlain gave out that the prince had been poisoned by his step-mother. You may conceive the surprise and horror of the king ; for the villain's scheme was laid so cunningly, that even he was compelled to doubt. The plan formed by the queen, in her despair, to convince her husband of her innocence, presents a curious instance of the superstition of the age. There was an old nun who lived alone in an old ruin, and who was celebrated for her knowledge of hidden things ; and Mary proposed that the king should send to consult her as to the real author of young Lewis's death. Philip was only too glad to consent, and his joy became still greater when the wise woman assured his messenger that the queen was innocent. This decision, however, drew suspicion upon Labrosse : some letters were found which proved that he had wilfully calumniated his royal mistress ; and the end of it was that the barber of St Lewis was ignominiously hung.

III. 1. Give the plural and meaning of *mon beau chapeau, au lieu affreux, celui-ci, c'est un chef-d'œuvre ;* and singular and meaning of *nos vieux habits, ses beaux yeux, messieurs vos fils, dites-leur !*

2. Give feminine and meaning of *quel bon garçon, mon beau-frère, ton époux, un vieux juif, leur roi généreux.*

3. Distinguish between *il croit—il croît ; un pot au lait—un pot de lait ; le voile—la voile ; des—dès—dés ; le veau—le vœu* ; *mon petit fils —mon petit-fils.*

4. Exemplify the use of the partitive article by giving the French for —(some) friends, good friends, some wine, beautiful wine, red wine, girls, French girls, some ink, blue ink.

5. (*a*) 3rd singular present, past definite, past indefinite and future of *jeter, venir, vendre, voir, s'en aller.*

(*b*) 3rd plural of the same tenses of *faire, acheter, savoir, devoir, se rendre.*

6. Write brief notices of any three of the following writers :— *Chateaubriand, Béranger, Voltaire, Rabelais, Rousseau, Molière.*

GERMAN.

Friday, 10th October 1890.—2 *to* 4 *o'clock.*

I. Translate into English :—

(*a*) Vor dem brennenden Hause aber ſtand eine Frau, wie erſtarrt, und rief : „Meine Kinder ! meine Kinder !" Als der Fremdling ſolches hörte, ſprang er in das Haus zwiſchen die krachenden Balken, und die Flammen ſchlugen über ihm zuſammen. Das Volk aber rief : „Der iſt verloren !" Als man aber eine Weile ängſtlich gewartet hatte, ſiehe, da trat er hervor mit verſengtem Haar und trug zwei Kindlein auf den Armen und brachte ſie der Mutter. Da umarmte und küßte ſie die Mutter und fiel dem Fremden zu Füßen ; dieſer aber hob ſie auf und tröſtete ſie ; und unterdeſſen ſtürzte das ganze Haus zuſammen.

(*b*) Der Sänger drückt' die Augen ein
Und ſchlug in vollen Tönen ;
Die Ritter ſchauten mutig drein,
Und in den Schoß die Schönen.
Der König, dem das Lied gefiel,
Ließ, ihn zu ehren für ſein Spiel,
Eine goldne Kette holen.

„Die goldne Kette gieb mir nicht,
Die Kette gieb den Rittern,
Vor deren kühnem Angeſicht
Der Feinde Lanzen ſplittern !
Gieb ſie dem Kanzler, den du haſt,
Und laß ihn noch die goldne Laſt
Zu andern Laſten tragen !

Ich ſinge, wie der Vogel ſingt,
Der in den Zweigen wohnet;
Das Lied, das aus der Kehle dringt,
Iſt Lohn, der reichlich lohnet.
Doch darf ich bitten, bitt' ich eins:
Laß mir den beſten Becher Weins
In purem Golde reichen!"

II. Translate into German :—

I went into the house, and fetched my violin, which I played pretty well, from the wall. My father gave me a few pence on my way, and I strolled along through the village. I felt a secret joy, when I saw all my old friends and comrades going out to work, to dig and plough, like yesterday and the day before, whilst I was going off into the wide world. Proud and contented, I bade the poor people Good-bye on all sides; but no one seemed to care for it much. My heart felt as if there was to be always holiday. And when I got out into the fields, I took my beloved fiddle, and played and sang, walking along the highway. But, as I was looking round, I saw a splendid carriage close behind me. It seemed to have followed me for some time, for it went quite slowly; and two ladies put their heads out of the carriage and were listening to me.

III. 1. Give the nominative and genitive singular and nominative plural (with the definitive article) of the German for any ten of the following words—*man*, *woman*, *son*, *daughter*, *brother*, *sister*, *chair*, *table*, *plant*, *flower*, *body*, *mind*, *day*, *night*, *virtue*.

2. Decline, singular and plural, the German for *my best friend* and *red wine* (*masc.*).

3. Give the German words for :—*Charles the First*, *Henry the Eighth*, 189 *children*, *on the* 16*th of June* 1890.

4. Give the third singular and third plural present, imperfect, and perfect indicative active of ſchneiden, denken, finden, wiſſen, können, kennen, verlieren, geſtehen, anfangen, aufnehmen.

5. Write out the perfect indicative active of gehen, and the pluperfect indicative passive of ſehen.

6. Write brief notices of any *three* of the following writers :—Goethe, Herder, Klopstock, Uhland, J. P. F. Richter.

Friday, 6*th March* 1891.—2 *to* 4 *o'clock*.

I. Translate into English :—

(*a*) Jetzt ging er wieder zurück und ſtellte eine recht traurige Betrachtung bei ſich ſelbſt an, was er für ein armer Menſch ſei unter ſo viel reichen Leuten in der Welt. Aber als er eben dachte: „Wenn ich's doch nur einmal ſo gut bekäme, wie dieſer Herr Kannitverſtan es hat," kam er um eine Ecke und erblickte einen großen Leichenzug. Vier ſchwarz vermummte

Pferde zogen einen ebenfalls schwarz überzogenen Leichenwagen langsam und traurig, als ob sie wüßten, daß sie einen Toten zu seiner Ruhe führten. Ein langer Zug von Freunden und Bekannten des Verstorbenen folgte nach, Paar um Paar, verhüllt in schwarze Mäntel und stumm. In der Ferne läutete ein einsames Glöcklein. Da ergriff unsern Fremdling ein wehmütiges Gefühl, und er blieb mit dem Hut in den Händen andächtig stehen, bis alles vorüber war. Da machte er sich an den letzten vom Zug, der eben in der Stille ausrechnete, was er an seiner Baumwolle gewinnen könnte, wenn der Zentner um zehn Gulden aufschlüge, ergriff ihn sachte am Mantel und bat ihn treuherzig um Entschuldigung. „Das muß wohl ein guter Freund von Euch gewesen sein," sagte er, „dem das Glöcklein läutet, daß Ihr so betrübt und nachdenklich mitgeht." „Kannitverstan!" war die Antwort. Da fielen unserm guten Tuttlinger ein paar große Thränen aus den Augen, und es ward ihm auf einmal schwer und wieder leichter ums Herz. „Armer Kannitverstan," rief er aus, „was hast du nun von allem deinen Reichtum?"

(*b*) Kaum hatt' im Gasthof zum weißen Pferd
Ein fremder Gast sein Mahl verzehrt,
Als der dicke Wirt ins Zimmer kam
Und höflich seine Mütz' abnahm
Und fragte: „Nun, mein Herr, hat's Ihnen
Auch wohl geschmeckt?" „O ja, zu dienen!"
Versetzt' der Gast hierauf, „mein Tisch
War reich besetzt mit Fleisch und Fisch.
Gewiß aß keiner," fuhr er fort,
„Heut köstlicher im ganzen Ort."—
„Den Bürgermeister ausgenommen,"
Versetzt' der Wirt und seufzt' beklommen.—
„Ich nehme keinen Menschen aus."—
„Das müßt Ihr!" sprach der Herr vom Haus.

II. Translate into German:—

Two Spanish students who were journeying together on foot to Salamanca, noticed a stone by the wayside (say, *at the way*) which bore an inscription (Inschrift *f.*) on it. They cleared the stone, and read these words: "Here rests the soul of Peter Garcias, Licentiate." "This good man had very little sense," said one of the students, "for how can a soul lie in a tomb?" "There must be some secret in this," said the other, "let us try whether we can raise the stone, and see what is beneath it." "You may do it by yourself (say, *alone*) if you like; I shall walk on and wait for you at the next inn." When his companion had left him, the student took off his coat and set to work. After much toil he succeeded in lifting the stone, and was delighted to find a purse filled with a hundred ducats, and a card with the following words:

"You who have had wit enough to read my inscription rightly, take this money, and make better use of it than I (have done, *omit*): that is, do not bury it!"

III. 1. Give the nominative and genitive singular, and nominative plural, of the German for any *ten* of the following words—*book*, *fish*, *fly*, *ox*, *bird*, *dog*, *cat*, *tooth*, *staircase*, *room*, *kitchen*, *picture*, *bed*, *goose*, *lion*.

2. Decline the German for—*a great man* (in the plural without article), and *that beautiful woman*.

3. Compare alt, jung, groß, ſtolz, hoch, nahe, gut, viel; gern, bald.

4. Give the 3rd sing. present, imperfect, and perfect indicative active of ſitzen, ſtehen, bringen, bleiben, gewinnen, beſehen, verlaſſen, aufſchneiden, ausgehen, antworten.

5. Show by examples what cases are governed by the prepositions aus, durch, wegen, in, mit.

6. Give brief notices of any three of the following writers—*Lessing*, *Heine*, *Goethe*, *Körner*, *Lenau*.

FIRST PROFESSIONAL EXAMINATION AND FIRST EXAMINATION FOR B.Sc. (*Secs. C, D, and F.*)

CHEMISTRY.

Monday, 21st July 1890.—11 *to* 1 *o'clock.*

1. Give a general account of the method of preparation of each of the following substances:—

(*a*) Mercuric cyanide. (*b*) Calomel. (*c*) Corrosive sublimate. (*d*) Chloroform. (*e*) Chloral.

2. What is the action of heat on each of the following substances?—

(*a*) Ammonium nitrate. (*b*) Calcium oxalate. (*c*) Barium nitrate. (*d*) Silver nitrate. (*e*) Cane sugar.

3. What reaction takes place in each of the following cases?—

(*a*) Lead heated in strong sulphuric acid. (*b*) Chlorine gas passed into aqueous solution of ammonia. (*c*) Zodine added to aqueous solution of caustic potash. (*d*) Zinc dissolved in dilute nitric acid. (*e*) Aluminium heated in aqueous solution of caustic potash.

4. How is Soap prepared? What is the action on a solution of soap of each of the following substances?—

(*a*) Hydrochloric acid. (*b*) Calcium chloride. (*c*) Common salt.

Monday, 23rd March 1891.—11 *to* 1 *o'clock.*

1. Describe the action of chlorine on—(*a*) Silver, (*b*) Iron, (*c*) Carbonic oxide, (*d*) Acetic acid, (*e*) Ethylene. In each case, state the conditions under which the action takes place.

2. What are the chief compounds of calcium which occur in nature? How is quicklime usually prepared? What is the action of sulphuretted hydrogen on slaked lime?

3. Give a general classification of Sugars. Give a sketch of the process of alcoholic fermentation.

4. What is the action of ammonia on solution of each of the following?—

(*a*) Silver nitrate, (*b*) Mercurous nitrate, (*c*) Mercuric chloride, (*d*) Cupric sulphate, (*e*) Manganous sulphate, (*f*) Magnesium sulphate.

5. How many litres of oxygen measured at 15° C. and 750 millimetres pressure, are required for the complete combustion of 100 grammes of marsh gas?

(H=1, C=12, O=16; two grammes of Hydrogen at 0° C., and 760 occupy 22.33 litres.

BOTANY.

Monday, 21*st July* 1890.—2 *to* 4 *o'clock.*

(*Only* FOUR *questions to be answered.*)

1. A seed is sown under suitable conditions of temperature, moisture, and oxygen supply. It germinates. Describe the changes that take place, arranging them under the headings, (*a*) Mechanical, (*b*) Chemical, (*c*) Vital.

2. What is cell sap? What is its position? What does it contain? What is its use to the plant?

3. Describe the structure of the macrosporangium of *Pinus* at the moment of impregnation of the ovum. Show how impregnation is effected.

4. What is vegetative budding? Describe the vegetative buds of *Mucor*, of *Eurotium*, of *Aspidium*, of *Ulmus*, under the headings, (*a*) Structure, (*b*) Position, (*c*) Performance of function.

5. Draw diagrams illustrating the chief facts in the life history of *Vaucheria* and of *Funaria*.

6. Describe the inflorescence and the flower in *Scilla*. By what agency is pollination effected? Point out the adaptations for pollination.

Monday, 23*rd March* 1891.—2 *to* 4 *o'clock.*

(*Only* FOUR *Questions to be answered. Illustrate your answers by Drawings.*)

1. Describe the appearance and the structure of an annual ring of secondary wood of *Ulmus*. Explain the functions of the elements that build up the ring.

2. The growth and multiplication of *Saccharomyces* and of some

Bacteria are inhibited by the products of their nutritive activity. Explain this in each case.

3. What is the use of oxygen to a plant? By what parts is oxygen taken in by a forest-tree? How and when is it taken in?

4. Describe the female sexual organ in *Vaucheria*, *Eurotium*, *Funaria*, *Aspidium*, and *Pinus*. How is the sexual act effected in each case?

5. Describe the structure of the primary root in *Pinus*. At what points is secondary growth initiated. What are the products of this growth?

6. How is the amount of water in a plant controlled? Point out the effect which varying external conditions have upon the amount of water in a plant.

7. By what characters are Musci distinguished from Hepaticæ? How do these classes differ from those of the group Thallophyta, and from those of the group Pteridophyta?

NATURAL HISTORY.

Tuesday, 22nd July 1890.—11 *to* 1 *o'clock.*

(*Four, but not more than four, Questions to be answered.*)

1. Mention five typical members of the Edentata, and point out the more striking characters of each.

2. Describe four different kinds of gills (branchiae), and state how the gills of the Invertebrata essentially differ from those of the Chordata.

3. Describe shortly the excretory (renal) organs of Hirudo, Helix, Raia or Scyllium, and Rana.

4. Why are Birds and Reptiles placed in the same group? Point out how the Ratitae differ from the Carinatae.

5. Describe *Amœba*, both morphologically and physiologically, and state why we consider it (*a*) an Animal, (*b*) a Protozoon.

6. What is a "portal system"? Describe (with diagrams) the portal systems of the Frog.

7. Describe the ovum and the earlier stages of development, as far as the establishment of the embryonic-layers, in *Amphioxus* and in *Scyllium*.

8. What are the chief points in which the structure of *Amphioxus* (*a*) agrees with, and (*b*) differs from, the general Vertebrate type?

Tuesday, 24th March 1891.—11 *to* 1 *o'clock.*

(*Only* FIVE *Questions to be answered.*)

1. Give a short account of the Amphibia, referring especially to the evidence of progressive development in the Urodela, and to the relation of Amphibia to Fishes.

2. Point out how the nervous system of a mammal, *e.g.* Lepus, essentially differs from that of a fish, *e.g.* Raia.

3. Give a short account of the order Carnivora, under the following heads :—(1) Classification, (2) Distinctive characters, (3) Distribution.

4. What is the notochord, and what animals is it found in? Describe its development, and its fate in the Frog.

5. Describe the heart and the aortic arches of the Frog, and compare them with those of (*a*) the Skate, and (*b*) the Rabbit.

6. What are the more important characters of a typical Crustacean? Point out in what respects they agree with, and differ from, those of (*a*) a typical Insect, (*b*) a typical Mollusc.

SECOND PROFESSIONAL EXAMINATION.

ANATOMY.

Friday, 11th July 1890.—10 *to* 12 *o'clock.*

1. Give the osseous attachments of all the ligaments of the Knee Joint, and state their respective uses in limiting the movements of the articulation.

2. Describe, step by step, the dissection to expose the whole length of the Lingual and Ranine Arteries.

3. Describe (*a*) the Shape, (*b*) the Position, and (*c*) the Relations of the Spleen.

Give the arrangement and structure both of its Coats and of its internal Trabecular framework.

4. Describe the position and the boundaries on the cranial surface of a cerebral hemisphere of the following fissures :—(*a*) Sylvian. (*b*) Central or fissure of Rolando. (*c*) Parieto-occipital. (*d*) Intra-parietal.

Indicate, as closely as you can, their relation to the surface of the Skull and Scalp.

Monday, 30th March 1891.—10 *to* 12 *o'clock.*

1. Give, step by step, the dissection required to expose the muscular part of the Transversalis Abdominis Muscle, and its aponeurotic insertion as far as the linea alba.

2. The Sternum :—

(*a*) Name its component segments, and state their centres of ossification ; (*b*) Give the precise place of articulation of the costal cartilages attached to it, and state what kinds of joints they form with the sternum ; (*c*) What muscles arise from the sternum? and state the precise origin of each muscle from this bone.

3. Give the position of the Cerebellum. How is it connected with adjoining parts of the encephalon? Describe the microscopic structure of the grey matter on the surface.

4. Write a systematic description of the whole length of the Femoral Artery, including its relations, but not its branches.

INSTITUTES OF MEDICINE.

Friday, 11*th July* 1890.—1 *to* 3 *o'clock.*

1. (*a*) Give an account of the changes which the blood and air undergo in the lungs; dicuss their causes, and state the conditions that influence the amount of carbonic acid excreted daily.

(*b*) Describe the microscopical appearances presented by a transverse section of an Intra-pulmonary Bronchus, and that of a Bronchiole.

2. (*a*) Give an account of the changes which the more important Carbohydrates of the food undergo in the different parts of the Alimentary Canal. (*b*) Discuss their mode of absorption from the Canal. (*c*) Trace their further history in the body, and discuss the part they play in nutrition.

3. Describe the arrangement of the Ganglia in the frog's heart, and the chief experiments by which knowledge has been gained regarding their action, and indicate the conclusions which may be drawn from each experiment.

Monday, 30*th March* 1891.—1 *to* 3 *o'clock.*

1. (*a*) Enumerate the forms in which Sulphur and Phosphorus are excreted from the human organism, and state the chemical elements contained in each of their compounds.

(*b*) Give, in detail, the sources of the several substances, and the conditions that determine variations in the amount of each of them excreted.

2. (*a*) Explain the experimental methods by which variations in the volume of blood in a limb, and in the spleen, may be studied.

(*b*) What variations can be shown to occur in the volume of blood in each of these organs, as the result of ordinary physiological states, and of states induced experimentally, and what conclusions are deducible from them regarding the influence of nerves on the volume of blood in such organs?

3. Describe the microscopical appearances of vertical section of skin from the palmar surface of a finger; the structure of its glands; the terminations of its nerves; the influence of nerves on the sweat glands, and the nervous mechanism through which their influence is called into play.

MATERIA MEDICA.

Saturday, 12*th July* 1890.—10 *to* 12 *o'clock.*

1. What are the distinguishing sensible and chemical characters of *Sulphurous Acid?* State its chief medicinal uses and its doses.

2. Name the officinal compounds and preparation of *Silver.* What is Argyria, and how do you explain its occurrence? In what diseases is the oxide of silver useful?

3. What is meant by an *Expectorant?* By what different actions are the effects of expectorants produced? Give examples of expectorants to illustrate each action.

4. Describe the pharmacological action of *Strophanthus hispidus* on the heart and circulation, and on the renal secretion. In what diseases are these actions of service, and what doses would you prescribe of the tincture?

Tuesday, 31*st March* 1891.—10 *to* 12 *o'clock.*

1. How may *Borax* be obtained? What are its therapeutic applications? What are its doses and officinal preparations?

2. Describe the pharmacological action and therapeutic uses of *Sulphate of Copper.* What are its doses, and with what object is it given in large doses?

3. Describe the pharmacological action of common *Camphor.*

4. What is *Chrysarobin?* What are its therapeutic uses? Mention its officinal preparation.

5. How, and from what sources, is *Pepsin* prepared? How would you test its activity? Describe its therapeutic uses. Mention some other ferments used in medicine.

GENERAL PATHOLOGY.

Saturday, 12*th July* 1890.—1 *to* 3 *o'clock.*

1. Give a complete account of the pathological conditions in which there is Hyperplasia or Neoplasia of Cartilage, including the naked eye and microscopic characters of the resulting morbid conditions.

2. Describe the process of Repair as seen (*a*) After simple fracture of the shaft of a long bone. (*b*) After transverse section of a nerve trunk.

Describe the naked eye and microscopic appearances of Waxy disease of the Kidney, and show how they illustrate the general characters of waxy disease.

Tuesday, 31*st March* 1891.—1 *to* 3 *o'clock.*

1. Give a full account of the processes observed in the formation of an acute Abscess, and discuss their etiology and pathology.

2. Enumerate and classify the morbid conditions of the urinary organs (exclusive of the urethra) which may cause the presence of blood in the urine. Describe fully two of these, one which especially affects the kidney, and another especially affecting the ureter or bladder.

3. Give a short account of (*a*) the causes, (*b*) the common positions, and (*c*) the structural results of Cerebral Hæmorrhage.

FINAL PROFESSIONAL EXAMINATION.

SURGERY.

Monday, 16th June 1890.—10 *to* 12 *o'clock.*

(*The Candidates must not answer more than* THREE *questions.*)

I. In the Examination of a patient, what are the points which would lead you to class a tumour as Malignant? What malignant tumours occur in the Mamma? What are their clinical characters?

2. A patient is brought into hospital in an *insensible* condition. There is a history of a fall half-an-hour before admission. State how you would proceed in order to make your diagnosis as to the cause of the insensibility.

3. State the points which you would inquire into, and the method of examination which you would adopt in investigating a supposed case of Tubercular Disease of the Hip Joint in an early stage. What diseases may it be mistaken for?

4. What is *Glaucoma?* What are the symptoms and appearances met with in a typical case? What treatment would you recommend?

MIDWIFERY.

Monday, 16th June 1890.—1 *to* 3 *o'clock.*

(*All* THREE *questions to be answered.*)

I. DELAYED SECOND STAGE OF LABOUR:—1. State causes on the part of the passages. 2. Give the diagnosis, prognosis, and treatment of a case delayed by an ovarian tumour in the pelvis.

II. ECLAMPSIA GRAVIDARUM:—1. Give the pathology. 2. Give the diagnosis and prognosis. 3. Give the treatment of an attack at the seventh month.

III. CHRONIC ENDOMETRITIS:—1. Give the pathological varieties. 2. Give the diagnosis. 3. Give the treatment.

PRACTICE OF PHYSIC.

Tuesday, 17th June 1890.—10 *to* 12 *o'clock.*

(*Only* THREE *questions to be answered.*)

1. Enumerate the symptoms of Bell's Facial Paralysis. Indicate the characters which distinguish the disease as it involves the nerve at different points. Describe the difference between this form of paralysis and that of the face in Hemiplegia.

2. Give an account of the morbid anatomy, clinical history, symptoms, physical signs, and treatment of Acute Pericarditis.

3. State briefly your views as to the nature of Idiopathic Fever

(fever not due to traumatic or other localised inflammation). Enumerate the stages into which it is usually divided, and its chief dangers, and indicate your line of treatment in regard to any one of these dangers.

4. Name the chief varieties of Anaemia. Indicate the characteristics each as regards the blood, the alimentary system, and the urine. Give the treatment of the three principal varieties, with a prescription for each.

MEDICAL JURISPRUDENCE.

Tuesday, 19th June 1890.—1 *to* 2 *o'clock.*

I. Wound of Scalp.

A man has a wound of the scalp; he alleges that an assailant cut him with a knife; the accused admits an assault, but says that the injury was done by a blow with a stick.

By what observations might you show which of these statements was true?

II. Poisoning with Strychnine.

1. What are the differences in symptoms which would enable you to diagnose Strychnine poisoning from tetanus?

2. What is the fatal dose of Strychnine for an adult?

3. Without entering on details of manipulation, briefly describe Stas' method for the detection of Strychnine, stating the principle on which it is founded.

III. Life Insurance.

A man, aged about forty-five years, proposes for Insurance. He measures 5 feet 8 inches; he weighs 14 stones. Before advising as to his insurability, what information, *in reference to his height and weight*, would you ask for regarding—

1. His family history?

2. His personal history since early manhood?

3. What might you learn from the general and stethoscopic examination of the heart and arteries, assuming that there is no valvular disease?

4. What might you learn by examining the eyes?

5. Is the weight excessive? If so, what should his normal weight be?

PUBLIC HEALTH.

Tuesday, 17th June 1890.—2 *to* 3 *o'clock.*

I. Ophthalmia.

1. Give an account of the symptoms and appearances of Contagious Ophthalmia.

2. To what is it generally due?

3. What steps should be taken to prevent it from spreading, say in a workhouse or school?

II. Sewer Air.

1. By what means may sewer air enter a dwelling-house?
2. How would you proceed to prevent this?

III. Infectious Diseases.

1. What are the usual incubating periods of—(*a*) Small-pox? (*b*) Enteric Fever? (*c*) Scarlet Fever? (*d*) Measles?
2. At what period, and after what precautions, would you consider a dwelling-house to be free from infection or contagion from these diseases?

CLINICAL MEDICINE.

Examinations written, oral, and practical, on cases in wards of the Royal Infirmary.

CLINICAL SURGERY.

Examinations on the Symptoms, Diagnosis, and Treatment of Surgical Cases in the wards of the Royal Infirmary.

PRESCRIPTION WRITING.

Tuesday, 17th June 1890.—3.30 *to* 4 *o'clock.*

*** *Each prescription to be written in Latin, without any contractions, except the directions for the patient, which may be written in English.*

1. Prescribe eighteen pills containing iron, arsenic, and nux vomica, for a case of debility and anæmia following acute rheumatism.
2. Prescribe a mixture containing Iodide of Potassium and Guaiacum for a case of Rheumatoid Arthritis.
3. Prescribe a lotion containing perchloride of mercury for a case of *Tinea tonsurans.*

Fellowships, Scholarships, Bursaries, and Prizes in Medicine.

—o—

I.—FELLOWSHIPS.

I.—THE SYME SURGICAL FELLOWSHIP.

This Fellowship, of the annual value of £105, 17s. 6d., and tenable for two years, is open to competition among Bachelors of Medicine of not more than three years' standing, who shall, in the opinion of the Examiners, have passed a creditable examination for the degree, and who shall present the best Thesis on a Surgical subject giving evidence of original research, or practical talent, whether such Thesis be given in for Graduation or otherwise. The next award may be at the Graduation Ceremonial in August 1893. Theses intended for competition must be lodged with the Dean of the Medical Faculty on or before 30th April 1893. *See* Deed of Foundation, at p. 310 of CALENDAR for 1872-73.

1886. Edward Carmichael, M.D. | 1889. *Alex. Edington, M.B., C.M.*

II.—THE LECKIE-MACTIER FELLOWSHIP.

The Leckie-Mactier Fellowship, of the annual value of £70, is awarded to Bachelors of Medicine of not more than three years' standing, and is tenable for three years. The examinations comprise written reports and commentaries on medical, surgical, and gynecological cases in the University Wards in the Royal Infirmary, and written examinations in Midwifery, Medical Jurisprudence, and Public Health; also oral examinations in Medicine, Surgery, Midwifery, Medical Jurisprudence, and Public Health. Every holder of the Fellowship must, before the expiry of his tenure, transmit to, and if required read publicly in presence of the Medical Faculty, a communication embodying the result of original observation or historical research in some department of medicine. Next appointment may be made in November 1892. *See* Deed of Foundation at p. 365 of CALENDAR for 1880-81.

1886. T. A. Helme, M.B., C.M. | 1889. *Thos. W. Eden, M.B., C.M.*

III.—THE SWINEY LECTURESHIP ON GEOLOGY.

This Lectureship—candidates for which must have taken the Degree of Doctor of Medicine at the University of Edinburgh—is in the patronage of the Trustees of the British Museum, and is of the annual value of £144. The office is tenable for five years, at the expiration of which period the Lecturer is ineligible for the next election. The number of

lectures is not to be less than twelve in each year, nor more than three in the same week. The course is required to be annually delivered between the first of November and the end of July following, at such public places in the United Kingdom as the Trustees shall approve. The public are admitted without fee. The Lecturer is required at the termination of each course to deposit a copy, or full extract of such course of lectures, with the Principal Librarian of the British Museum, to whom application may be made for further particulars.

IV.—FREELAND BARBOUR FELLOWSHIP.

This Fellowship is of the value of £100, and is open to award, in each alternate year, to the Bachelor of Medicine and Master in Surgery who has gained the highest collective marks in Anatomy, Physiology, and Pathology in the Professional Examinations, and who is prepared to devote not less than one year to original research in Midwifery or diseases of women, in any of the Laboratories or Practical Departments of the University of Edinburgh. The next award will be made in July 1892. (*See* Deed of Foundation at page 517 of CALENDAR for 1889-90.)

1888. John David Williams, M.B., C.M.
1890. *R. M. Home, M.B., C.M.* (resigned)
,, *Gerald Fitzgerald, M.B., C.M.*

THE WILLIAM DICKSON TRAVELLING FUND.

This is a fund for the purpose of assisting Graduates of any Faculty, of not more than three years' standing, to travel for the purpose of study or research. For particulars, see page 225.

II.—SCHOLARSHIPS.

I.—ETTLES SCHOLARSHIP IN MEDICINE.

This Scholarship was founded in 1868 by Miss Mary Ettles of Inverness, and is of the annual value of about £35. It is awarded annually to the Bachelor of Medicine and Master in Surgery of the University of Edinburgh, whom the Faculty of Medicine may consider the most distinguished of that year. (*See* Deed of Foundation, at page 242 of CALENDAR for 1868-69.)

1886. F. T. King, M.B., C.M.
1887. G. O. C. Mackness, M.B., C.M.
1888. T. W. Eden, M.B., C.M.
1889. E. G. Pilgrim, M.B., C.M.
1890. *Carstairs C. Douglas, M.B., C.M.*

II.—SIBBALD MEDICAL SCHOLARSHIP.

This Scholarship is of the annual value of £40. *First*, The Scholarship shall be bestowed on, and held by, a Student in the Faculty of Medicine in the University of Edinburgh, *who does not hold any other Scholarship or Bursary*, and shall be tenable for three years, during

which period the Scholar shall complete the prescribed course of medical study required from Candidates for the degree of Bachelor of Medicine. *Second*, The Scholarship shall be bestowed upon the Student obtaining the highest place by Competitive Examination, and shall be open to all Candidates who have not previously been Students of Medicine in any other School or University, and who have attended Medical Classes in the University of Edinburgh, for *not less* than one Winter and one Summer Session, and for *not more* than one Winter and two Summer Sessions. The Competitive Examination shall be in Chemistry, Botany, and Natural History, and shall be conducted in such manner as the Senatus Academicus shall, in concurrence with the Trustees, prescribe. The next competition may take place in October 1892. Application to be made to Messrs MACKENZIE, INNES, & LOGAN, W.S., 23 Queen Street, Edinburgh.

1886. Carstairs C. Douglas | 1889. *Robert Hutchison*

III.—THOMSON SCHOLARSHIP.

The Thomson Scholarship, value £40, tenable for four years, open to matriculated students commencing their first Winter Session in Medicine. The examination is on Botany, Zoology, and Elementary Mechanics. The Scholarship is awarded to the candidate who shall obtain the highest number of marks in the examination. The Trustees, however, reserve power to themselves to withhold the appointment should none of the candidates obtain a sufficiently high percentage of the marks in the examination. Candidates must send in their names to the agents for the Trust before the first day of October in the year in which there is a competition for the Scholarship. Students of the name of Thomson or Traquair, or those who are natives of the town or county of Dumfries, or of the city of Edinburgh, have a preference. Candidates claiming such preference must intimate their names to the Agents for the Trust at least one clear week before the examination. The next appointment may be made in October 1894. For other particulars, application to be made to Messrs Traquair, Dickson, & Maclaren, W.S., 11 Hill Street, Edinburgh, the Agents for the Trustees.

1887. Robert Brown | 1890. *J. Stewart Norwell, B.Sc.*

IV.—COLDSTREAM MEMORIAL MEDICAL MISSIONARY SCHOLARSHIP.

The Coldstream Memorial Medical Missionary Scholarship was founded in memory of the deceased John Coldstream, M.D., F.R.C.P.E. Value £25, tenable for four years. The holder must be a first year's Medical Student, who intends to devote himself to the life of a Medical Missionary at home or abroad. He must be approved of by the awarders, and pass the preliminary examination before beginning his

studies. Next award in 1891. A preference is given to students connected with the Edinburgh Medical Missionary Society. A full copy of the conditions can be had on applying to John P. Coldstream, W.S., 6 Buckingham Terrace, Edinburgh. *See* Conditions in CALENDAR for 1879-80, p. 357.

1887. *James W. Dawson*

V.-XII.—VANS DUNLOP SCHOLARSHIPS.

Eight Scholarships, of £100 each, tenable for three years. Not more than one at a time can be held by the same person. *See* Excerpt from Will of Dr Vans Dunlop, p. 380 of CALENDAR for 1880-81.

V. *One* is awarded to the Candidate who, at either the March or the preceding October Medical Preliminary Examination, has obtained the highest number of marks in the Subjects required to enable him to appear for a Professional Examination, provided (1) that he has not already passed the said Preliminary Examination; and (2) that, in the event of his having passed an equivalent examination and presenting himself for the Medical Preliminary Examination, he shall waive all right to admission to the Faculty of Medicine except through the ordinary Medical Preliminary Examination of this University. The next award may be made in March 1893.

1887. W. E. Fisher, H. S. W. W. Jones, B.Sc.—equal
1890. *William Anderson Stephen*

W. D. Adams gained the first place in the Examination, but was disqualified by the then existing regulations.

VI. One is awarded for subjects of first year's study, viz., Botany, Zoology, Chemistry, and Anatomy, to the Student who, having attended, for the first time, a systematic course of Lectures on each of the above Subjects during the preceding Winter Session, and also during either the preceding or current Summer Session, obtains the highest number of marks collectively in the University Class Examinations in those Subjects; provided that he has gained not less than 60 per cent. of the marks in each of all the Subjects. The successful Candidate shall continue his medical studies in this University during his tenure of the Scholarship. The next award may be at the end of July 1893.

1887. J. W. Bone and G. Elder—equal
1890. *J. P. Stewart*

VII. One is awarded for subjects of second year's study, viz., Physiology and Surgery, to the Student who, during the Winter Session, shall have attended, for the first time, a systematic course of Lectures on each of these Subjects, and who shall have obtained the highest collective number of marks in the Class Examinations; provided that he has gained not less than 60 per cent. of the marks in each of the two subjects. The successful Candidate shall continue his medical studies in the University during at least two years of his tenure of the

Scholarship, whilst the remaining year must be passed in study, either in this University, or in some other School of Medicine to be approved by the Faculty of Medicine. The next award may be at the end of March 1893.

1887. John W. Crerar | 1890. *Louis Godfrey Irvine*

VIII.-X. Three Scholarships, of which one is awarded annually at the end of the third Winter of Medical Study to the Student who, after having attended within the University the Subjects of Examination, shall obtain the highest number of marks in an Examination, specially conducted for the purpose, on Anatomy, Physiology, Materia Medica, and Pathology. The successful Candidate is required to continue his studies in this University, for at least the first year of his tenure of these Scholarships, and during the remaining period to prosecute research in some branch of study comprised in the Medical curriculum. The award is made annually in April.

1887. Robert Muir, M.A. | 1890. *E. B. Fuller*
1888. Percy C. Evans | 1891. Robert Hutchison
1889. Robert Main Horne

XI. One in Chemistry and Chemical Pharmacy.

(1.) The Subjects of Examination are—

(*a*) Inorganic and Organic Chemistry, and the connection between the Chemical and Physical character of Substances.

(*b*) Qualitative and Simple Quantitative Analysis of Inorganic Substances, and the Preparation and Testing of the Chemical Substances in the British Pharmacopœia.

(2.) The Examination in subjects (*a*) is similar, and held at the same time, as that for the Second B.Sc. Examination. The Examination in subjects (*b*) is conducted practically in the Laboratory.

(3.) The Competition is open to all Students of the University, from the second to the sixth year (inclusive) of their attendance, and the next may take place in April 1894.

1888. Francis Maitland Gibson and Hugh Marshall—equal.
1891. *William Cossar Mackenzie, D.Sc.*

XII. One in Natural History, including Geology and Botany.

(1.) The subjects Natural History, Geology, and Botany are coequal in the Examination, and the Examination in each of the three subjects is similar to that for the Second B.Sc. Examination, and consists of two parts—a Written Examination extending over not less than three hours, and a Practical Examination with specimens.

(2.) The next Examination will be held in April 1892, at the same time as the Second B.Sc. Examination.

(3.) The Competition shall be open to all Students of the University, from the second to the sixth year (inclusive) of their attendance.

1886. Malcolm Laurie, B.Sc., and George A. Ramage—equal
1889. *J. Graham Kerr*

XIII.—THE MURCHISON MEMORIAL SCHOLARSHIP.

This Scholarship consists of the annual proceeds of about £1000 awarded in alternate years in London and Edinburgh for proficiency in Clinical Medicine. Candidates must be registered medical students who have attended for not less than four nor more than six years at Hospitals and classes at Edinburgh or London, recognised by the University of Edinburgh or the Royal College of Physicians of London. The competition in 1891 will be held in Edinburgh, and that in 1892 will be held in London.

1886. J. S. Hutton, L.R.C.P. and M.R.C.S.
1887. W. S. Colman, M.B.
1888. H. T. Tylden, M.A., M.B.
1889. Arthur J. Whiting, M.B., C.M.
1890. *Bedford Pierce, M.B.*

XIV.—THE STARK SCHOLARSHIP IN CLINICAL MEDICINE.

This Scholarship of £112 is tenable for one year, and is for the encouragement of the study of Clinical Medicine. It is open to competition among all matriculated students of the University who are or have been in attendance at the University Class of Clinical Medicine, and to Bachelors of Medicine of the University of not more than eighteen months' standing who have attended this class. It is open to competition every second year alternately with the competition in Edinburgh for the Murchison Memorial Scholarship. The Examination, oral and in writing, includes (*a*) Examination of Patients; (*b*) Questions on Therapeutics and Pathology; (*c*) Examination of Specimens. Each holder of the Scholarship will be required to devote his time in the wards of the Professors of Clinical Medicine to original investigation or other work directly connected with Clinical Medicine; to report his proceedings every three months to the Professors of Clinical Medicine; and, within a reasonable time after the expiry of his tenure of the Scholarship, to present to the Faculty of Medicine a written statement of the results of his investigations or other work. This Scholarship cannot be held along with any other Fellowship, Scholarship, or Bursary in a Scottish University. The next competition will take place in July 1892. *See* Deed of Foundation at p. 427 of CALENDAR for 1884-5.

1886. F. H. Jeffcoat, M.B., C.M.
1888. Jas. Brown Bird, M.B., C.M.
1890. *R. D. Clarkson, B.Sc., M.B., C.M.*

XV.—BUCHANAN SCHOLARSHIP.

This Scholarship consists of the proceeds of £1000, given by Mrs James Buchanan, who endowed the Buchanan Medical Ward in the Royal Infirmary. The Scholar acts as House Physician to the University Gynecological Ward as one of the conditions of tenure of the Scholarship, and also gives assistance in the Examination of Class

Exercises. The Scholarship is awarded annually to the Graduate in Medicine who shows the highest proficiency in Midwifery and Gynecology.

1886. J. W. Talent, M.B., C.M.
1887. W. F. Wright, M.B., C.M.
1888. W. Buchanan, M.A., M.B., C.M.
1889. Geo. Wilkinson, M.B., C.M.
1890. *C. C. Douglas, M.B., C.M.*

XVI.—THE JAMES SCOTT SCHOLARSHIP.

This Scholarship, founded by Mrs Mary Ann Scott or Thomson of Hawick, of the value of £45, is awarded annually at the Graduation Ceremonial in Medicine in August for proficiency in Midwifery. The award is based upon the results of the Competitive Examinations in the Class of Midwifery, upon the character of the records of Cases of Midwifery attended by the Candidate at the Royal Maternity and Simpson Memorial Hospital, and upon the position obtained by him at the Final Examination for Degrees in Medicine. The Scholarship is for one year, but may, in special circumstances, be continued for another year. *See* Deed of Foundation, p. 410, CALENDAR, 1883-84.

1886. Joseph Tillie, M.B., C.M.
1887. J. G. Havelock, M.B., C.M.
1888. Thos. W. Eden, M.B., C.M.
1889. James Lackie, M.B., C.M.
1890. *Wm. Paterson, M.B., C.M.*

XVII.—HOPE PRIZE SCHOLARSHIP.

The Hope Prize Scholarship has been instituted in connection with the Chemical Laboratory of the University, and is of the value of about £25. It is awarded annually in March, to the student who, intending to continue his studies and attendance in the Chemical Laboratory, has, in the opinion of the Professor of Chemistry, most distinguished himself during the previous session in the Chemical Laboratory. He shall be bound, during the succeeding Summer and Winter Sessions, to assist the Professor of Chemistry in the Chemical Laboratory, and shall be subject to his directions as to the nature and amount of the assistance to be so given. For further particulars see CALENDAR, 1887-88, p. 424.

1887. Prafulla C. Ráy, D.Sc.
1888. John Simpson Ford
1888. Lapsed Scholarship, Andrew King
1889. William Cossar Mackenzie
1889. Lapsed Scholarship, Thomas S. Murray
1890. Alexander Dingwall White
1891. *Theodore Rettie*

XVIII.—THE MOUAT SCHOLARSHIP IN THE PRACTICE OF PHYSIC.

This Scholarship, which will consist of the annual proceeds of about £1500 given by Frederic John Mouat, M.D., of the Local Government Board, London, formerly Professor of Medical Jurispru-

dence in the University of Calcutta, has been founded in connection with the class of Practice of Physic, but is not to be open for competition until the death of two liferenters.

XIX.—MACKAY SMITH SCHOLARSHIP IN CHEMISTRY.

This Scholarship is of the annual value of £25, tenable for two years, and is open for competition to Students who have attended the Class of Chemistry in this University. The successful Candidate is bound to attend the Class of Chemistry, or to prosecute the study of Chemistry during at least one year of his tenure of the Scholarship, in such way as the Senatus Academicus may direct or approve. The next Examination will take place at the end of Session 1891-92.

1887. Hugh Marshall, B.Sc.
1888. Martin Hugh Foye
1890. *R. W. Briggs*

III.—BURSARIES.

No of Foundation.	Year of Found.	Name of Founder.	Total Annual Income.	No. of Bursars.	For Years.	Annual Allowance to each Bursar.	Patrons.
I.	1864	Dr Abercrombie, Cape Town.	£20 0 0	1	4	£20 0 0	Governors of George Heriot's Trust.
II.	1871	Dr J. R. Sibbald's Trustees.	About £150 0 0	5	4	30 0 0	Trustees of Dr J. R. Sibbald.
III.	1873	Dr Mackie's Trustees.	60 0 0	2	2	30 0 0	Professors of Fac. of Med. in Univ., Edin.
IV.	1873	Mr Grierson of Ogscastle's Trustees.	80 0 0	4	3	20 0 0	Senatus.
V.	1878	Dr Andrew Thomson	200 0 0	8	4	25 0 0	Trus. of Dr Thomson.
VI.	1878	William Mackenzie	42 10 0	2	1	21 5 0	Senatus.
VII.	1878	John Aitken Carlyle	56 0 0	2	1	28 0 0	Senatus.
VIII.	1882	Mrs Ronald of Liverpool	80 0 0	2		About 40 0 0	Senatus.
IX.	16—	George Heriot. Remodelled 1887	180 0 0	6	4	30 0 0	Governors of George Heriot's Trust.
X.	1890	Major Robert Orr Crichton of Lynn, M.D.			4	50 0 0	Senatus Academicus.

Medical Bursaries.

I. *Abercrombie Bursary*—Open by competition, in the event of more than one candidate coming forward, to Students who have been brought up in Heriot's Hospital, and have finished their course as Heriot Bursars, to aid them in further prosecution of their studies for any of the learned professions. Students in the Faculty of Medicine to be always preferred. Candidates are referred to the Treasurer of Heriot's Hospital, 20 York Place, Edinburgh. *Bursar—David G. Douglas.*

II. *Sibbald Bursaries.*—The following regulations have been adopted for these Bursaries:—*First*, The Bursaries, each tenable for three years, are available to Students in the Faculty of Arts, Medicine, Law, or Divinity. *Second*, The Bursaries to be held by Students entering the University who have not previously attended any University in the United Kingdom or elsewhere, *and who do not hold any other Bursary or Scholarship*, but no objection to a Candidate that he has, during the previous Summer Session, attended any of the Classes in the University of Edinburgh required by the Faculties of Medicine or Law. *Third*, The Bursaries competed for by examination at the commencement of each Winter Session, and in every case bestowed upon the Candidates in their order of merit. Application to be made to Messrs Mackenzie, Innes, & Logan, W.S., 23 Queen Street, Edinburgh.

III. *Mackie Bursaries.*—These Bursaries are awarded to Students of Medicine of the University, one of which is open to Students who have completed their First Annus Medicus, and the other to Students who have completed their Second Annus Medicus, and who are, in the opinion of the Faculty of Medicine, in such pecuniary circumstances as to require assistance. *Bursars* — 1890, *Arthur Foster*, *J. G. Christie*, *M.A.*

IV. *Grierson Bursaries.*—Candidates from the parishes of Crawford or Leadhills, about to commence their Medical Curriculum, who have passed in the University of Edinburgh a satisfactory examination in the preliminary subjects required by Article I. of the Ordinances for Graduation in Medicine, who have been diligent students, and who require pecuniary aid to enable them to pursue their studies, have a preference. In the case of more candidates than one, the Bursary shall be awarded to the best qualified, on examination in the subjects above referred to.

Failing the appointment of preferential candidates, the Bursary will be tenable for periods of one year only, during four successive years, in manner following, viz.:—The 1st year Bursary shall be awarded to the student who has taken the highest place in the whole subjects required by Ordinance for the preliminary examination which has to be passed before the first professional examination, provided (1) that he has not already passed the said preliminary examination; (2) that at the date of the examination he has not completed his twenty-first year; and (3) that, in the event of his having passed an equivalent examination and presenting himself for the Medical Preliminary Examination, he shall waive all right to admission to the Faculty of Medicine except through the ordinary Medical Preliminary Examinations of this University, which have to be passed before the First Professional Examination. The 2d year Bursary shall be awarded by competitive examination to the student commencing the Second Winter Session, who having already passed the subjects of the Preliminary Examination required for Graduation in Medicine, shall pass the best examination in the subjects of Chemistry, Botany, and Natural History. The 3d year Bursary shall be awarded by competitive examination to the student commencing the Third Winter Session who, having already passed the First Professional Examination, shall pass the best examination in the subjects of Anatomy and Physiology. The 4th year Bursary shall be awarded by competitive examination in the subjects of Materia Medica and Pathology. *Bursars*—1890, *first year*, *David Landsbrough*, *M.A.*;

second year, John Tennant, M.A., Andrew Croll; third year, G. W. F. Macnaughton; fourth year, Alexander Brownlie.

V. One *Thomson Bursary* is awarded at each of the Preliminary Examinations held in Spring and Autumn, to the Candidate who, being about to commence his Curriculum, takes the highest place in a sufficient number of subjects to enable him to appear for Professional Examination: provided (1) that he has not already passed the said Preliminary Examination; and (2) that, in the event of his having passed an equivalent examination and presenting himself for the Medical Preliminary Examination, he shall waive all right to admission to the Faculty of Medicine except through the ordinary Medical Preliminary Examinations of this University which have to be passed before the First Professional Examination. Students of the name of Thomson or Traquair, or those who are natives of the town or county of Dumfries, or of the city of Edinburgh, have a preference. Candidates claiming a preference must intimate their names to the Agents for the Trust, at least one clear week before the Examination. For other particulars, application may be made to Messrs Traquair, Dickson, & Maclaren, W.S., 11 Hill Street, Edinburgh, the agents for the Trust. *Bursars*—1887-88, *Hugh Walker, James V. Paterson;* 1888-89, *Alfred Cowper, William B. Craig;* 1889-90, *W. D. Adams, W. A. Potts;* 1890-91, *Duncan M. Mackay, Fred. R. Jones.*

VI. *Mackenzie Bursaries*, open to Students in the Junior and Senior Anatomy Classes, who shall display the greatest industry and skill in Practical Anatomy, awarded at the end of each Session. *See* CALENDAR for 1879-80, p. 353. *Bursars*—1891, Senior, *C. Hubert Bond;* Junior, *R. St G. S. Bond, William Mitchell, J. G. Rodger*—equal.

VII. *John Aitken Carlyle Bursaries*, one open to Students of the first year, awarded after examination in Anatomy and Chemistry, the other to Students of the second year, awarded after examination in Anatomy and Physiology. *See* CALENDAR for 1879-80, p. 350. *Bursars*—1890 Lapsed Bursary, *P. J. Henderson;* 1891, Senior, *W. J. Garbutt;* Junior, *J. E. Bowes; Prox. acces., George Shaw.*

VIII. The *Anderson Bursaries* have been founded by Mrs Ronald of Liverpool, and will come into operation on the death of an annuitant. For Deed of Foundation, *see* CALENDAR 1882-83, p. 396.

IX. The *Heriot Bursaries* are for Students unconnected with the Hospital, entering upon a regular Curriculum with a view to graduation. (For remodelled scheme, see CALENDAR, 1887-88, p. 498.) For subjects of Examination, &c., see under Bursaries open in Faculty of Arts.

X. *Crichton Bursaries.*—The money for these Bursaries has not yet been received by the University. The Bursaries will be open to Students entering the Faculty of Medicine of this University who have been born in Scotland. The Examinations will be in Latin, Greek, French, German, Mathematics, Logic, and Moral Philosophy; and each Bursary will be of the annual value of £50, tenable for four years, provided the Bursars continue Students of the Medical Faculty of this University. Unapplied balances may be applied for a period of three years in assisting Bachelors of Medicine of the University, who have studied in the University for not less than four years, in the prosecution of any branch of Medical Study either at this University or at any other University. See Excerpt from Deed, p. 540 of CALENDAR for 1891-92.

IV.—PRIZES.

I.—NEIL ARNOTT PRIZE FOR EXPERIMENTAL PHYSICS.

This Prize, of the value of about £42, presented to the University by Dr Neil Arnott of London, is awarded annually in October to the Candidate who shall pass with the greatest distinction the Ordinary Examination in Natural Philosophy for the Degree of M.A. Candidates must have been Students of Medicine of this University during either a summer or a winter session; and the successful candidate must continue a Student of Medicine at this University during the next Winter Session, failing which, the prize will be forfeited and assigned to the competitor next in merit. No student can appear for examination after the completion of his third *annus medicus;* and no candidate shall be allowed to offer himself more than once.

In the event of a competitor, qualified as above, not coming forward, the prize will be awarded to a Candidate for a Degree in Arts who shall pass with most distinction the ordinary examination in Natural Philosophy. (*See* Deed of Foundation at p. 274 of CALENDAR for 1870-71.)

1887. T. W. E. Fisher	1889. Andrew Walker
1888. H. S. W. Jones	1890. *O. D. Robson*

II.—HOPE CHEMISTRY PRIZE.

This prize was founded by the late Professor Thomas C. Hope in 1844, for the promotion of the Study and Science of Chemistry in the University, in such manner as the Principal and Professors may appoint. It is competed for biennially, at a special examination open to all Students of the University who have worked for eight months or for two Summer Sessions, in the Chemical Laboratory of the University, and who are not more than twenty-five years of age. The examination is in Chemistry, and is conducted by the Professor of Chemistry, in conjunction with two Examiners appointed by the Senatus, and is practical as well as written. The successful Candidate is to spend the succeeding academical year in working in a Laboratory or Laboratories, under conditions approved by the Senatus, and to receive £100, in such sums, and at such intervals, as may be appointed by them.

No person can hold the Hope Chemistry Prize more than once.

A Competition for this Prize will be held in July 1891; Candidates must send in their names to the Professor of Chemistry prior to 20th June 1891.

1887. James Walker, B. Sc.	1889 { *W. C. Mackenzie, B.Sc.* / *T. R. Marshall, D.Sc.* } equal

III.—THE ROBERT WILSON MEMORIAL PRIZE.

This Prize was founded by John Wilson of South Bantaskine, in memory of his son, Robert Wilson, and is of the value of £8, 16s. 2d. It

is annually awarded at the close of the Winter Session to the student in the senior Chemistry Class who takes the highest honours. See Deed of Foundation at p. 351 of CALENDAR for 1876-77.

1887. John W. Bone
1888. H. S. Wansbrough Jones
1889. F. C. M. Hutchinson
1890. Edward Crarer
1891 *James H. Frazer*, *George Shaw* } equal

IV.—THE ELLIS PRIZE FOR PHYSIOLOGY.

This Prize consists of the proceeds of a sum of £500 bequeathed by the late Daniel Ellis, Esq., to the Principal and Faculty of Medicine of the University of Edinburgh, accumulated for three or five years. Value about £25 per annum. It is awarded for the best Essay or Treatise on some subject of Animal or Vegetable Physiology proposed by the Faculty for competition to Students or Graduates of five years' standing. The next award may be made in April 1893. Subject—"The Functions of Wood."

1890. *Gustav Mann*

V.—PRIZES FOR THESES.

Gold Medals, each of the value of £10, are awarded annually on the day of graduation to Doctors of Medicine whose Theses are deemed worthy of that honour.

VI.—THE GOODSIR MEMORIAL PRIZE.

This Prize was founded in 1872 by the subscribers to the fund for a memorial of the late Professor John Goodsir. It is in the patronage of the Principal, Dean of the Faculty of Medicine, and Presidents of the Royal Colleges of Physicians and Surgeons of Edinburgh, and is for the encouragement of the study of Anatomy and Physiology. It is given triennially, and is of the value of £60. It is open to all Graduates in Medicine of the University of not more than three years' standing at the time of the competition, and to Licentiates of the Colleges of Physicians or Surgeons of Edinburgh of a like standing, who have attended within the University the same number of classes as are required for the Degree of M.B. The Prize is awarded for the best Essay containing results of original investigations in Anatomy, Human and Comparative, either Normal, or Pathological, or in Experimental Physiology.

The next award may be made in August 1892, and competing Dissertations must be lodged with the Professor of Anatomy not later than the 30th April previously. *See* Deed of Foundation at p. 314 of CALENDAR for 1872-73.

1885. Ernest Frederic Neve, M.D. | 1889. *H. F. Waterhouse, M.D.*

VII.—THE WIGHTMAN PRIZE IN CLINICAL MEDICINE.

This Prize of £10, 10s. was founded by Mrs E. Wightman, in memory of her son, J. T. Wightman, M.B., C.M., and is annually awarded at the close of the Summer Session to the student attending the Class of Clinical Medicine for the best Dissertation on any subject presented by the Faculty of Medicine, or for the best Report and Commentary on cases which have during the previous Winter and Summer Sessions been treated in the University Clinical Wards in the Royal Infirmary. Three months' notice of subject is given by the Faculty of Medicine. *See* Deed of Foundation at p. 348 of CALENDAR for 1876-77.

The Prize, which is open to members of the Clinical Class of either Winter 1890-91 or Summer 1891, will be awarded for the best report and commentary on cases. The Essays to be given in on 6th July.

1888. A. J. Whiting, M.B., C.M.
1889. Not awarded
1890. Not awarded

VIII.—THE BEANEY PRIZE.

This Prize of £37, 10s. was founded in 1878 by James George Beaney, Esq. of Melbourne. It is awarded at the Graduation Ceremonial in Medicine to the Graduate in Medicine and Surgery of the year who, having attended within the University courses on Anatomy, Surgery, and Clinical Surgery qualifying for Graduation, obtains the highest number of marks during his examinations in these subjects for the Degrees of Bachelor of Medicine and Master in Surgery. The Senatus has the power of withholding the Prize in the event of no Student passing the above examinations with sufficient merit. *See* Deed of Foundation at p. 371 of CALENDAR for 1878-9.

1887 { A. A. Brueré, M.B.C.M. } equal
{ W. A. Turner, M.B.C.M. }
1888. J. C. Webster, M.B., C.M.
1889. Eustace Graham Pilgrim, M.B., C.M.
1890. *G. Fitzgerald, M.B., C.M.*

IX.—THE CAMERON PRIZE.

This Prize was founded in 1878 by the late Dr Andrew Robertson Cameron, of Richmond, New South Wales. It consisted of the annual proceeds of a sum of £2000, to be given annually "to the practitioner or member of the medical profession who shall be adjudged to have made the most valuable addition to Practical Therapeutics during the year preceding, and in determining such question, the word Therapeutics shall be taken in its widest sense as including every agent, or agency capable of influencing the human body in the maintenance or improvement of health, avoidance or cure of diseases, or the alleviation of suffering."

The regulations have been remodelled by the Educational Endowments (Scotland) Commission, and the annual proceeds, which, after defraying the necessary expenses, amount to about £90, may be

awarded annually to a person who in the course of the five years immediately preceding has made any highly important and valuable addition to Practical Therapeutics. The Prizeman is required to deliver a lecture or course of lectures on the addition to Practical Therapeutics so made by him, or to publish an account of such addition in such manner as the Senatus may prescribe. The prize will not be awarded if, in the opinion of the Senatus, no addition to Practical Therapeutics has been made within the said period of five years of sufficient importance and value to justify the awarding of the prize. The prize is awarded annually at the Graduation Ceremonial in August. See Remodelled Regulations, p. 497 of CALENDAR for 1888-89.

1889. Mons. Pasteur.
1890. *Sir Joseph Lister, Bart., M.B., LL.D., F.R.S.*

X.—THE DOBBIE SMITH PRIZE IN BOTANY.

This prize, which consists of a Gold Medal, is open to competition each alternate year to all Matriculated Students of the year of the award, for an Essay on a Botanical subject. The subject of the next competition is an original investigation "On the Structure, Development, and Life History of any British Flowering Plant;" and the memoir is to be accompanied with a series of illustrative specimens. Competing Essays to be sent to the Dean of the Faculty of Medicine on or before the 1st of July 1891. The prize will be awarded to the successful competitor at the Graduation Ceremony of August 1891.

1887. James A. Terras | 1889. Gustav Mann

XI.-XXI.—THE GUNNING VICTORIA JUBILEE PRIZES.

Dr Gunning, of Edinburgh and Rio de Janeiro, has founded Eleven Post-Graduation Prizes of the value of £50 each, and each recurring triennially, viz.:—(1) The Monro prize for Anatomy; (2) The Bell prize for Physiology; (3) The Edward Forbes prize for Zoology, &c.; (4) The Hutton Balfour prize for Botany; (5) The Joseph Black prize for Chemistry; (6) The Christison prize for Materia Medica; (7) The Lister prize for Surgery; (8) The Gregory prize for Practice of Physic; (9) The John Thomson prize for Pathology; (10) The Simpson prize for Obstetrics; (11) The Alison prize for Public Health and Medical Jurisprudence. Candidates must be either Bachelors of Medicine or Bachelors of Science of this University of not more than three years' standing. The prizes will be awarded with the approval of the Senatus for (1st) either (*a*) Competitive Essays written specially for the prizes, or (*b*) Theses submitted for Graduation; or (2nd) for original research conducted under supervision of the Professor in the department in which the prize is awarded. The prizes in Anatomy, Chemistry, and Practice of Physic will be awarded in 1893; in Physiology, Botany, Surgery, and Pathology, in 1894; and in Zoology, Materia Medica, Obstetrics, Public Health and Medical Jurisprudence,

in 1892. Competitive Essays are required to be lodged with the Dean of the Faculty of Medicine on or before 30th April of the year in which each prize is to be awarded, and the successful competitors will be announced annually at the Graduation Ceremonial in Medicine.

1887. Hugh Marshall, B.Sc. (Ch.)
,, W. C. S. Miller, M.D. (An.)
,, R. W. Philip, M.D. (P.P.)
1888. G. A. Stewart, M.A., D.Sc. (Physiology)
,, E. F. Neve, M.D. (Surgery)
1889. Philip J. White, M.B., C.M. (Zoology)
,, Joseph Tillie, M.D. (Materia Medica)
,, Robert Muir, M.B. (Pathology)
1889. James A. Blair, M.B., C.M. (Public Health and Medical Jurisprudence)
,, John William Ballantyne, M.D. (Obstetrics)
1890. *John Shields, B.Sc.* (Chemistry)
,, *W. G. A. Robertson, M.D.* (Anatomy)
,, Prox. access., *A. J. Whiting, M.B., C.M.*
,, Practice of Physic Prize not awarded

XXII.—ANDERSON HENRY PRIZE.

The Prize was founded by Isaac Anderson Henry of Woodend, and consists of the proceeds of a sum of £300 accumulated for three years. It is awarded for the best and approved essay on a botanical subject proposed by the Professor of Botany, the Curator of the Royal Botanic Garden, and the President of the Botanical Society of Edinburgh, for competition to students in the Class of Botany in the University of Edinburgh, during any of the three years preceding the date of the award. The next award may be made in August 1893. Competing Essays to be sent to the Dean of the Faculty of Medicine on or before 1st July 1893.

1890. *Robert Turnbull, B.Sc.*

XXIII.—MILNER FOTHERGILL MEDAL IN THERAPEUTICS.

This Medal, of the value of about £20, is awarded biennially. It is open for competition to Graduates in Medicine of the University, who have been members of the Class of Materia Medica in the University, for the best essay which shall include a description of original research made by the Candidate on a Pharmacological or Therapeutic subject, preference being given to a subject relating to Dietetics. See Deed of Foundation, p. 542 of CALENDAR for 1891-92. The first award may be made at the Graduation Ceremonial in August 1893. Essays to be lodged with the Professor of Materia Medica on or before 30th April 1893.

Of the foregoing Fellowships, Scholarships, Bursaries, and Prizes, the following are open to competition during the Summer Session 1891, and Winter Session 1891-92.

FELLOWSHIPS.

1. *The Falconer Memorial Fellowship in Geology and Palæontology; Examination 20th and 21st July* 1891 (No. I. p. 530).

SCHOLARSHIPS.

1, 2. *Two Vans Dunlop Scholarships.*—One in Natural History, including Geology and Botany (No. XII. p. 446); one in Anatomy, Physiology, Materia Medica, and Pathology (No. VIII. p. 446).

3. *The Murchison Memorial Scholarship in Clinical Medicine* (No. XIII. p. 447).

4. *The Buchanan Scholarship in Midwifery and Gynecology* (No. XV. p. 447).

5. *The James Scott Scholarship in Midwifery* (No. XVI. p. 448).

6. *The Ettles Scholarship in Medicine* is awarded annually to the most distinguished Bachelor of Medicine and Master in Surgery of the year (No. I. p. 443).

7. *The Hope Prize Scholarship in Chemistry* (No. XVII. p. 448).

8. *The Mackay Smith Scholarship in Chemistry* (No. XIX. p. 449).

9. *The Coldstream Memorial Medical Missionary Scholarship* (No. IV. p. 444).

BURSARIES.

1. *One Sibbald Bursary*, value £30 each (No. II. pp. 449, 450).

2-6. *Five Heriot Bursaries*, each of the annual value of £30, and tenable for three years, are open to students matriculating for the first time in the University. Applications to be sent, not later than 1st October in each year, to the Governors of George Heriot's Trust, from whom all relative information may be had on application (No. IX. pp. 440, 451).

7, 8. *Two Thomson Bursaries*, value £25 each, tenable for four years. One to be competed for each March and October, at the Preliminary Examination. Preference given to Candidates of the names of Thomson or Traquair, or to natives of the town or county of Dumfries, or of the city of Edinburgh. Candidates for the Thomson Bursaries and Scholarship to give their names to Messrs Traquair, Dickson, & Maclaren, W.S., 11 Hill Street, Edinburgh (No. V. pp. 449, 450).

9-12. *Four Grierson Bursaries* of £20 a-year each. Natives of the Parishes of Crawford and Leadhills have a preference. In the absence of preferential Candidates each Bursary will be tenable for one year only, and will be open to competition, viz.:—*One* for Preliminary Subjects, *one* for Chemistry, Botany, and Natural History, *one* for Anatomy and Physiology, *one* for Materia Medica and Pathology. The Bursary for Preliminary Subjects will be awarded on the results of the Preliminary Examination. The Examinations for the Second, Third, and Fourth Year Bursaries will take place on Saturday, 24th October 1891. For further particulars see No. IV. pp. 449, 451.

13, 14. *Two Dr John Aitken Carlyle Bursaries* of £28 each. One

to a first year's Student in Anatomy and Chemistry; One to a second year's Student in Anatomy and Physiology (No. VII. pp. 449, 451).

15, 16. *Two Mackenzie Bursaries* of £21, 5s. each. One in the Junior Class of Practical Anatomy, and one in the Senior Class of Practical Anatomy (No. VI. pp. 449, 451).

Competitors for the above Bursaries, excepting those awarded for the subjects of Preliminary Examination, must have studied the subjects of Examination at the University of Edinburgh. No Fellowship, Scholarship, or Bursary, with the exception of the Ettles Scholarship, can be held along with any other Fellowship, Scholarship, or Bursary.

PRIZES.

The Medical Faculty Medals.—Gold Medals are given on the day of Graduation to Doctors of Medicine whose Theses are deemed worthy of that honour.

1. *The Beaney Prize for Anatomy, Surgery, and Clinical Surgery*, of the value of £37, 10s. (No. VIII. p. 454).

2. *The Neil Arnot Prize in Natural Philosophy*, of the value of about £42 (No. I. p. 452).

3. *The Cameron Prize* of £98 is awarded yearly to a person who, in the course of five years immediately preceding the date of the award, has made any highly important and valuable addition to Practical Therapeutics (No. IX. p. 454).

4-7. *Four Gunning Victoria Jubilee Prizes*, of the value of £50 each. One for Zoology, one for Materia Medica, one for Obstetrics, and one for Public Health and Medical Jurisprudence. Competitive Essays to be lodged with the Dean of the Faculty of Medicine on or before 30th April (No. XI. p. 455).

8. *The Goodsir Memorial Prize in Anatomy and Physiology* (No. VI. p. 453).

9. *The Hope Chemistry Prize* (No. II. p. 452).

10. *The Wightman Prize in Clinical Medicine*, of Ten Guineas (No. VII. p. 454).

11. *The Dobbie Smith Gold Medal in Botany* (No. X. p. 455).

12. *Wilson Memorial Prize* (No. III. p. 452).

13. *The William Dickson Travelling Fund.* See page 225.

14. *The Lord Rector's Prize* (No. I. p. 228).

15. *The Gray Prizes* (No. 5, 6, 7, p. 207).

16. *The University Club of London Prize* (No. IX. p. 228).

N.B.—*Scholars, Bursars, or Fellows must apply to the Dean of the Faculty of Medicine, for Certificates to entitle them to draw the instalments due, and to the Factor for payment thereof, within three months after they have become payable, otherwise they will be regarded as having resigned. Any who desire to resign must at once announce this to the Dean and to the Factor.*

V.

GRADUATION IN SCIENCE.

Conveners of Science Degrees Committee.

SECTIONS A and B—PROFESSOR CHRYSTAL, LL.D., 5 Belgrave Crescent, Edinburgh.

SECTIONS C, D, E, and F—PROFESSOR GEIKIE, LL.D., F.R.S., &c., 31 Merchiston Avenue, Edinburgh.

Degrees in Science.

Programme of Classes.

SUMMER SESSION, 1891.

The Classes will be opened as follows. They will meet daily (Saturdays excepted), unless otherwise stated; and will be closed on Friday, 17th July.

Classes.	Days of Opening and Hours of Lectures.	Professors.	Class Fees.
Elementary Hebrew[1]..	4 May, 10 o'clock	Prof. Adams and Assistant,	£1 11 6
Physical Laboratory ...	11 May, 10 ,,	Prof. Tait and Assistant,	2 2
Sanskrit.....	4 May, 3 ,,	Prof. Eggeling, ...	3 3
Engineering Field-Work (Surveying, Levelling, &c.).....	16 June, 9.30,,	Prof. Armstrong,	3 3
Geology (*Mon.*, *Wed.*, *Fri.*).....	11 May, 4 ,,	Prof. Geikie,.....	3 3
Field Demonstrations on *Saturdays*.			
Botany	4 May, 9 ,,	Prof. Bayley Balfour,	4 4[2]
Practical Botany.....	4 May, 8 & 10,,		2 2
Field Demonstrations on *Saturdays*.			
Natural History.....	4 May, 2 ,,	Prof. Ewart,	4 4
Advanced Class	4 May, 4		2 2
Practical Zoology.....	4 May, 10.45 and 12.15 o'clock		2 2[3]
Advanced Prac. Zool..	4 May, 1.30		3 3[3]
Chemistry (Organic), Advanced Class — (*Tues.*, *Wed.*, *& Thur.*)	5 May, 1 ,,	Prof. Crum Brown,	2 2
Do., Practical.....	4 May, 11 ,,		
Practical Physiology, including Histology	4 May, 3 ,,	Prof. Rutherford,	3 3

[1] To prepare Students for entering the Junior Class in Winter Session.
[2] Besides Garden Fee of 5s. [3] Besides charge of 10s. for Laboratory Expenses.

TUTORIAL CLASSES.

These Classes commence on Monday, 4th May, and close on Friday, 17th July.

Classes.	Hours.	Professors' Assistants.	Class Fees.
Senior Humanity.....	9-10	Francis R. Jamieson, M.A.	£2 2
Junior Humanity.....	10-11		
Third Humanity	12-1		
Junior Greek.....	9-10	John Alexander Smith, M.A. (Edin.), B.A. (Oxon.)	2 2
Senior Greek	10-11		
Third Greek.....	11-12		
Junior Mathematics	11-12	R. E. Allardice, M.A.	2 2
Senior Mathematics	12-1		
Advanced Mathematics.	10-11		
Natural Philosophy.....	11-12	William Peddie, D.Sc.	2 2
Analytical Dynamics	9-10		
Logic and Psychology... (*Mon., Wed., & Fri.*)...	1-2	R. P. Hardie, M.A. (Edin.)B.A.,(Oxon.)	1 11 6
Moral Philosophy..... (*Mon., Wed., & Fri.*)...	12-1	Charles M. Douglas, M.A.	1 11 6

CLASSICS.—In the Senior Classes of Greek and Latin, Students are specially prepared for the M.A. Pass Examinations in Classical Literature to be held in October 1891 and April 1892. Most of the prescribed books will be read, and some Lectures will be given on the Literature. This Course may with advantage be taken by those who have attended the Junior Classes and are about to enter the Senior next Winter Session, and by those who have completed the attendance required for the classical part of their Degree, but intend to go up for examination in October instead of April next. The Junior Classes are intended to meet the wants both of the less advanced students who have already attended the Winter Classes, and of those who are preparing to enter on the regular Winter Course for the first time in October next. Part of the work prescribed for the M.A. Pass Examinations in October 1891 and April 1892 will be read, and easier composition will be done. Advanced Classes in Greek and Latin will be formed for the reading of the more difficult authors. These Classes are intended as a preparation for the Advanced Winter Courses. The authors read will be specially selected to suit those preparing for University Scholarship Examinations, and for Classical Honours.

MATHEMATICS.—In the Junior Class of Mathematics the Lectures will be confined to the subjects necessary for the Junior Winter Course, namely, Plane Geometry, and the simpler portions of the Elements of Algebra. The Lectures in the Senior Class, being designed for those who have already attended the Junior Winter Course, or who wish to revise the work of the Senior Winter Course, will embrace Trigonometry, Algebra, and Conic Sections. These Classes afford to Students an opportunity of preparing either for the M.A. Pass or 1st B.Sc. Examination in Mathematics. In the Advanced Class of Mathematics, which has been instituted for the benefit of those preparing to join the Advanced Winter Course, Lectures will be given on Determinants, Theory of Equations, Co-ordinate Geometry, and the Elements of the Differential and Integral Calculus.

NATURAL PHILOSOPHY.—The Course of Lectures on Natural Philosophy will include a treatment of the laws of Heat, Light, Electricity, &c., and of the Elementary Principles of Dynamics. It will be specially adapted to the wants of Students preparing for the 1st B.Sc. or Departmental M.A. Examination in Physics, and for the Natural Philosophy and Mechanics Preliminary Examinations in Medicine and Science. The Advanced Course is intended for Students who are preparing for the Advanced Winter Course, or for the 2nd Science Examinations.

LOGIC AND PSYCHOLOGY.—To prepare for the Class of Logic and Psychology next Session, and for the M.A. Pass and other Examinations. Elements of Logic, Fourth Edition (Fowler or Jevons). Introduction to Psychology ("Selections from Berkeley"). "Locke" (Philosophical Classics).

MORAL PHILOSOPHY.—To prepare for the Class of Moral Philosophy, and for the M.A. Pass and other Examinations. Professor's "Handbook"; Sidgwick's "History of Ethics."

WINTER SESSION, 1891-92.

The classes will be opened as follows, and will meet daily (Saturdays excepted), unless otherwise stated.

Classes.	Days of Opening and Hours of Attendance.	Professors.	Class Fees.
First Humanity ...	21 Oct., 12&20'cl.	Prof.	£3 3
Second Humanity .	21 Oct., 10 ,,	Prof.	3 3
Third Humanity ...	21 Oct., 2 ,,	Prof.	2 2[1]
First Greek	21 Oct., 9&1 ,,	Prof. Butcher...	3 3
Second Greek	21 Oct., 11 ,,	Prof. Butcher...	3 3
First Mathematics	21 Oct., 12 ,,	Prof. Chrystal...	3 3
Second Mathematics..	21 Oct., 10 ,,	Prof. Chrystal...	3 3
Third Mathematics ...	26 Oct., 9 ,,	Prof. Chrystal...	3 3
Logic & Psychology...	21 Oct., 1 ,,	Prof.	3 3
Metaphysics and Hist. of Philos. (*Mon. and Thurs.*)	2 Nov., 3 ,,	Prof.	2 2[2]
Moral Philosophy.....	21 Oct., 12 ,,	Prof. Calderwood	3 3
Do. Advanced.... (*Tues. & Fri.*)....	3 Nov., 3 ,,	Prof. Calderwood	2 2[2]
Natural Philosophy...	21 Oct., 11 ,,	Prof. Tait.....	3 3
Do. (Advanced Class)	2 Nov., 10 ,,	Prof. Tait.....	3 3
Physical Laboratory..	9 Nov., 10 ,,	Prof. Tait.....	2 2
Practical Astronomy .	27 Oct., 11 ,,	Prof. Copeland..	3 3
Agriculture and Rural Economy..	21 Oct., 4 ,,	Prof. Wallace ...	4 4
Hebrew—Junior Class	4 Nov., 1 ,,	Prof. Adams....	3 3
Do. Senior Class	4 Nov., 2 ,,	Prof. Adams....	3 3
Arabic and Aramaic (*Mon., Wed., & Fri.*).....	11 Nov., 3 ,,	Prof. Adams....	3 3
Sanskrit and Comparative Philology—		Prof. Eggeling	
(Junior Class).....	3 Nov., 3 ,,	Prof. Eggeling	4 4
(Senior Class).....	3 Nov., 4 ,,	Prof. Eggeling	4 4
Engineering	3 Nov., 9 ,,	Prof. Armstrong	4 4
Do., Short Additional Course...	11 Jan., 5 ,,	Prof. Armstrong	1 1[3 4]
Geometrical & Mechanical Drawing	4 Nov., 10 to 2 ,,	Prof. Armstrong	3 3
Sanitary Engineering and Drawing	11 Nov., 10 ,,	Prof. Armstrong	3 3

[1] The fee is £3, 3s. for those who have not previously attended the Humanity Classes qualifying for graduation.
[2] For those only who have previously attended the Junior Class.
[3] Five Shillings University Entrance Fee for non-matriculated Students.
[4] No fee for Students of the regular Class in Engineering.

WINTER SESSION, 1891-92—*continued.*

Classes.	Days of Opening and Hours of Attendance.	Professors.	Class Fees.
Geology & Mineralogy (*Mon., Wed., & Fri.*)	2 Nov., 4 o'cl.	Prof. Geikie.....	4 4
Practical Class (*daily*)	4 Nov., 3-4 ,,		2 2
Economics as applied to Agriculture (Biennially) (*Mon., Wed., & Fri. till Christmas*)	Lectures in Session, 1892-93.	Prof. Nicholson	1 1
Chemistry	13 Oct., 10 o'cl.	Prof. Crum Brown	4 4
Practical Chemistry	1 Dec., 11, 12, and 2 o'cl.		3 3
Institutes of Medicine	13 Oct., 11 ,,	Prof. Rutherford.	4 4
Practical Physiology..	14 Oct., 9 ,,		3 3
Natural History [1].....	13 Oct., 2 ,,	Prof. Ewart.....	4 4
Advanced Class [1].....	13 Oct., 2 ,,		2 2
Practical Zoology [1]....	13 Oct., 11 ,,		2 2[2]
Advanced Prac. Zool. [1]	14 Oct., 1 ,,		3 3[2]
Public Health Lectures	In Spring	Prof. Sir Douglas Maclagan	
Botany [1].....	13 Oct., 4 ,,	Prof. B. Balfour.	4 4
Prac. Bot. Element. [1]	13 Oct.,		2 2
Do. do. Advanced [1]	13 Oct.,		3 3

LECTURERS.

Forestry	22 Oct., 2 o'cl.	*Vacant*.....	3	3[3]
Agricultural Entomology (Twenty Lectures).....	5 Jan., 9 ,,	W. Fream, B.Sc. (Lond.)	2	2[3] [4]
Compar. Embryology	5 Jan., 2 ,,	Mr George Brook	3	3[3]

The Fee for a Second Course of any of the Lectures is £3, 3s.; any subsequent course is free. If a Perpetual Ticket is taken out at the beginning of the First Course, the Fee is £6, 6s.

[1] Three months' course.
[2] Besides charge of 10s. for Laboratory Expenses.
[3] Five Shillings University Entrance Fee for Non-Matriculated Students.
[4] Free to all present and past Students of the Agriculture Class.

The following means are afforded for Practical Instruction:—

I. LABORATORIES.

THE PHYSICAL LABORATORY, established with the view of affording Students a practical knowledge of the construction and use of physical apparatus, and the mode of conducting experimental inquiries, is open daily from 10 to 3, under the superintendence of Professor Tait.

GEOLOGICAL AND PETROLOGICAL LABORATORY, for practical instruction in the study of Minerals, Rocks, and Fossils, and the methods of plotting and drawing geological maps and sections, is open daily from 3 to 4, under the superintendence of Professor Geikie.

ENGINEERING DRAWING CLASS ROOM, open daily during the Winter Session, from 10 A.M. to 2 P.M., for practical instruction in drawing and drawing office routine.

THE ENGINEERING (FULTON) LABORATORY, open on fixed days during the Winter Session, for the practical instruction of Students in the processes employed by the Engineer in the Experimental Determination of the Physical and Economical Constants of Materials, Machines, and Prime Movers, and in the Practical Applications of Electricity.

PRACTICAL INSTRUCTION IN OFFICE AND FIELD-WORK, daily, in connection with the Summer Course of Lectures on Surveying, Levelling, &c., from 11 A.M. to 4 P.M. each day.

The AGRICULTURE DEPARTMENT in the Museum of Science and Art is open daily to Students attending the Agriculture Class. Excursions to farms are made on Saturdays by Members of the Agriculture Class, and demonstrations are given from time to time in the Agriculture Laboratory.

The ROYAL OBSERVATORY is open to Students of Practical Astronomy on two evenings of the week, from 8 P.M.

ROYAL BOTANIC GARDEN and BOTANICAL MUSEUM AND LABORATORY.—These, as well as the Herbarium, with which is incorporated the Collection of dried plants belonging to the University, are used by University Students for the practical study of plants and for botanical research, and are open daily, under the superintendence of the Professor, assisted by J. M. Macfarlane, D.Sc., and others.

PHYSIOLOGICAL LABORATORY, for the prosecution of Physiological Research, and for the study of Practical Physiology, open daily, under the superintendence of the Professor and John Berry Haycraft, M.D., D.Sc., assisted by E. W. Carlier, M.B., B.Sc.

The CHEMICAL LABORATORIES (distinct from the Practical Chemistry Room), completed in 1885, contain accommodation for forty Students. The Laboratories are fitted with all necessary apparatus for chemical analysis and research, open daily, under the superintendence of the

Professor, assisted by John Gibson, Ph.D.; James Walker, D.Sc., Ph.D.; and Thomas S. Murray, D.Sc.[1]

NATURAL HISTORY LABORATORIES, for research and for study of the structure and development of Invertebrate and Vertebrate forms, open daily, under the superintendence of the Professor, assisted by J. Beard, B.Sc., Ph.D., and others.[1]

PUBLIC HEALTH LABORATORY, for Hygienic investigation, comprises three departments, viz.: a Chemical, a Bacteriological, and a Meteorological Department, open daily, under the superintendence of the Professor, assisted by Charles Hunter Stewart, M.B., C.M., B.Sc. Opens 4th May and 1st October 1891.[1]

MATRICULATION FEES.

For the Academical Year, 1st October to 1st October,	£1	0	0
For the Summer Session only, 1st May to 1st October,	0	10	0
University entrance-fee in lieu of Matriculation for each of certain additional Courses (see Class Lists),	0	5	0

CLASS SESSIONS.

There are Two Sessions in each year, viz. :—

I. The Summer Session, which opens on the 4th of May, and closes on the 17th of July 1891.

II. The Winter Session, which opens on the 13th of October 1891, and closes on the 18th of March 1892. Practical Anatomy and Public Health Laboratory work begin on the 1st October 1891.

The Classes will meet for the last time before the Christmas Vacation on Friday, 18th December 1891, and will re-assemble on Tuesday, 5th January 1892.

Regulations as to Degrees.

Two Degrees in Science are conferred by the University of Edinburgh :—that of Bachelor of Science (B.Sc.), which is conferred in the Departments of Physical and Natural Science (Section C), in Engineering (Section D), in Public Health (Section E), and in Agriculture (Section F); and that of Doctor of Science (D.Sc.), which is conferred in the Departments of Mental Science (Section A), and Philology (Section B), and in the above-mentioned Sections C, D, and E.

The Degrees in Science are conferred at the Graduation Ceremonials in April and August.

---

[1] Fees—Winter Session, £10, 10s.: Summer Session, £6, 6s.

A.—DOCTORATE IN MENTAL SCIENCE.

The Degree of Doctor of Science is open to Candidates highly prepared in the Mental Sciences.

1. The Candidate must be a Graduate, by examination, of a British or a recognised Indian or Colonial University.

2. He must be matriculated in this University for the year in which he appears for Examination or Graduation.

3. He must have attended for at least one academic year in this University, and during that year he must have taken at least two classes on the subjects embraced in the Examination.

4. The Candidate must, in evidence of literary and philosophical culture, send to the Dean of the Faculty of Arts, *at least one month* before proceeding to Examination, a Thesis giving evidence of original research, on a subject in Mental Science approved, *six months before the examination*, by the Science Degrees Committee. Mere compilations will not be accepted. The Candidate can be admitted to examination only after this Thesis has been found satisfactory by the Examiners.

5. The Candidate may then proceed to the Examination, which shall include Logic and Metaphysics, Moral Philosophy, and the History of Philosophy, both Metaphysical and Moral; and the Examination shall (as far as convenient) be combined with the Examination for Honours in Philosophy of the year in which the Candidate desires to pass, and including the books and subjects embraced in that Examination. [Candidates may be tested both orally and by writing.]

6. Those who have taken the Degree of Master of Arts in this University with First-Class Honours in the Department of Mental Philosophy, may obtain the Degree of Doctor in Mental Science when a period of *not less than five years* shall have elapsed after they have obtained such Honours, on submitting a sufficient Thesis, on a subject approved by the Science Degrees Committee, and on giving such other evidence of increased proficiency in the Mental Sciences, by published writings or otherwise, as may be satisfactory to the Senatus.

7. The Fee for the Degree of Doctor in Mental Science is £7, 7s.[1] The Fee must be paid at the *Matriculation Office* at least ten days before the Examination (or in the case of Candidates admitted under Rule 6, at least ten days before Graduation), when the Diploma and Certificates of the Candidate must be shown to the Dean of the Faculty of Arts. In the event of the Candidate not passing, the fee is not returned, but he may appear at *one* subsequent Examination without paying an extra fee, and at any future Examination on paying one-half of the fee. When Candidates cannot attend personally to pay the fees, they should transmit them to the *Clerk of the University*, by crossed

[1] Every candidate, unless a member of the General Council, is required before graduation to pay the Fee for Registration of £1, now made compulsory by Act of Parliament.

Post Office or *Postal Orders*, or by *Bank Drafts only*, and not by cheques on private accounts.

B.—DOCTORATE IN PHILOLOGY.

The Degree of Doctor of Science is open to Candidates highly proficient in Philology.

1. The Candidate must be a Graduate, by examination, of a British or recognised Indian or Colonial University.

2. He must be matriculated in this University for the year in which he appears for Examination or Graduation.

3. He must have attended for at least one academic year at this University, and during that year he must have taken at least two classes on the subjects embraced in the Examination.

4. The Candidate must send to the Dean of the Faculty of Arts, *at least one month* before proceeding to Examination, a Thesis, giving evidence of original research, on some subject in Philology or Archæology, approved *six months before the examination* by the Science Degrees Committee. Mere compilations will not be accepted. The Candidate can be admitted to examination only after this Thesis has been found satisfactory by the Examiners.

5. The Candidate may then offer himself for Examination in any one of the following branches :—

(1.) *Latin and Greek Languages.* Candidates for the Degree of Doctor of Science in Classical Philology will be tested in respect of their general Scholarship by translation from Latin and Greek Authors, and by composition in Latin and Greek Prose. They will further be required to profess a special knowledge of some Department or Epoch of Classical Literature, or of some three or four of the more difficult and important Classical Writers.

(2.) *Semitic Languages.*

The following are the subjects of Examination for the Degree in this Department :—

(*a.*) Hebrew.—The Books of Samuel, Kings, Psalms, Amos, Micah, and Zechariah to be known critically. Hebrew composition.

(*b.*) Aramaic.—The Aramaic portions of the Old Testament. The Chrestomathy in Nestle's Syriac Grammar. The Biblical Extracts and the Selections from the Chronicle of Bar-Hebraeus and from Ephraem's Hymns in Roediger's Chrestomathia Syriaca. The First Gospel and the Book of Acts (Peshîṭṭâ Version). The Fourth Gospel (Philoxenian Version). Translation into Syriac.

(*c.*) Arabic.—The Ḳor'ân, Sûras i.-vi., x.-xv., xxvii.-xxxi., xxxv., xxxvi., and lxxviii.-lxxx., with Sale's Preliminary Discourse. Reading of easy Arabic Prose. Translation into Arabic.

(3.) *Sanskrit Language and Comparative Philology.*

(*a.*) Sanskrit Language and Literature. Translation of passages from standard Sanskrit Authors into English, and from English into Sanskrit.

(*b.*) Science of Language, and Comparative Philology of the Indo-European Languages. Acquaintance with the principles of Comparative Linguistic Research, as laid down in the Comparative Grammar of Bopp, Schleicher's "Compendium," and Müller's and Whitney's "Lectures." Candidates must also show some degree of familiarity with Curtius' "Principles of Greek Etymology" (the Introduction); Peile's "Introduction;" Delbrück's "Introduction to the Study of Language;" and Brugmann's "Elements of Comparative Philology."

[The Examinations will be held annually at the close of the Winter Session. Candidates may be tested both orally and by writing.]

6. Those who have taken the degree of Master of Arts in this University, with First-Class Honours in the Department of Classical Literature, may obtain the Degree of Doctor of Science in Philology, when a period of *not less than five years* shall have elapsed after they have obtained such Honours, after submitting a sufficient Thesis on a subject approved by the Science Degrees Committee, and on giving such other evidence of increased proficiency in Philological Research, by published writings or otherwise, as may be satisfactory to the Senatus.

7. The Fee for the Degree of Doctor of Science in Philology is £7, 7s.[1] The Fee must be paid at the *Matriculation Office* at least ten days before the date of Examination (or in the case of Candidates admitted under Rule 6, at least ten days before Graduation), when the Diploma and Certificates must be shown to the Dean of the Faculty of Arts. In the event of the Candidate not passing, the fee is not returned, but he may appear at *one* subsequent Examination without paying an extra fee, and at any future Examination on paying one-half of the fee.

Friday, 8th April 1892, at 9 o'clock, is fixed for the commencement of the Examinations of Candidates for the Degree of Doctor in Mental Science, and of Doctor in Philology,—either in Latin and Greek, or in Sanskrit and Comparative Philology. The Examination in Semitic Philology will be held on Wednesday, 23rd March 1892, and following days.

Candidates must present their Theses to the *Dean of the Faculty of Arts* at least one month before the date of the Examination. They must also enter their names and addresses and pay the fees at the "*Matriculation Office, University, Edin-*

[1] Every Candidate, unless a member of the General Council, is required before graduation to pay the fee of £1 for Registration, now made compulsory by Act of Parliament.

burgh." When Candidates cannot attend personally to pay the fees, they should transmit them to the *Clerk of the University*, by crossed *Post Office* or *Postal Orders*, or by *Bank Drafts only*, and not by cheques on private accounts.

GEORGE CHRYSTAL, LL.D., *Convener.*

C.—DEGREES OF BACHELOR AND DOCTOR OF SCIENCE, IN THE DEPARTMENT OF PHYSICAL AND NATURAL SCIENCE.

QUALIFICATIONS REQUIRED OF CANDIDATES.

1. Candidates for Degrees in Physical and Natural Science must, unless exempted, pass a Preliminary Examination in English, Latin, Arithmetic, the Elements of Mathematics, and the Elements of Mechanics; and in at least two of the following subjects :—Greek, French, German, Higher Mathematics, Natural Philosophy, Logic, and Moral Philosophy. This Preliminary Examination is the same as for Degrees in Medicine (see pp. 363-365).

EXEMPTIONS FROM THE PRELIMINARY EXAMINATION.

(*a.*) Bachelors or Masters of Arts, by Examination, of British or recognised Indian or Colonial Universities.

(*b.*) Bachelors or Doctors of Medicine of British or recognised Indian or Colonial Universities.

(*c.*) Holders of two Departmental Certificates in the Faculty of Arts of this University.

(*d.*) Candidates who have passed in this University the Entrance Examination for Curriculum of Three Sessions for Degrees in Arts in Latin, Greek, and Mathematics, are exempted from the Preliminary Examination in Latin, Arithmetic, and Elements of Mathematics, and are held to have passed in Greek and Higher Mathematics as optional subjects.

(*e.*) Matriculated Students of the University of London.

(*f.*) Students who have been admitted by Examination to the Royal Indian Engineering College, Cooper's Hill, and who have obtained 50 per cent. of the marks in Latin or in Greek in the Competitive Examination for entrance to that College. Should such Students not bring evidence of having obtained 50 per cent. in either of these subjects, they will be required to pass the Preliminary Examination in Latin.

(*g.*) Holders of Certificates of having passed the Leaving Examina-

tions of the Universities of Oxford and Cambridge when certified as equivalent to a pass in Responsions at Oxford and the First Examination at Cambridge.

2. Candidates must also produce evidence of attendance on qualifying Classes embracing all the subjects included in the Science Examination which they purpose to undergo.

3. The attendance on Science Classes for the Degree of Bachelor of Science must extend over three Academic years, one of which must be passed at the University of Edinburgh, the other two years either at this University, or at Universities or Institutions [1] recognised by and approved by this University; Classes of Chemistry, of Practical Chemistry, of Botany, and of Zoology, which are recognised for the First Professional Examination for Degrees in Medicine, are also recognised for the First Bachelor of Science Examination.

4. Each Academic year must be constituted by attendance on Science Classes during at least two full courses during one winter session, or one such course and two full courses during a summer session. Work in a scientific laboratory extending over a period of not less than five months will be reckoned equivalent to a full winter course of lectures, and work in a scientific laboratory extending over a period of three months will be reckoned equivalent to a full summer course of lectures.

5. Every Candidate for a Degree in Science must produce his Matriculation Ticket for the year in which he appears for Examination or Graduation.

6. Candidates for Graduation who have previously passed the Examinations are required to intimate to the Clerk to the Senatus their intention to Graduate, and pay the fee at least ten days before the date of Graduation. Those whose Examinations are not then completed are required to give such intimation at the earliest possible date, and at latest one clear day before the day of Graduation.

UNIVERSITIES and INSTITUTIONS at present recognised in Terms of Regulation I. 3.

The Universities of St Andrews, Glasgow, Aberdeen, Oxford, Cambridge, Dublin, and Victoria University, Manchester.

The Glasgow and West of Scotland Technical College; Uni-

[1] Only Institutions possessing the necessary staff and appliances for Theoretical and Practical Instruction in Science will be recognised by the University.

A list of Universities and Institutions at present recognised in terms of this regulation is given above.

versity College, Dundee; University College, London; King's College, London; The Royal College of Science, South Kensington; The Owens College, Manchester; The Mason College, Birmingham; The College of Science, Newcastle-on-Tyne; The Yorkshire College of Science, Leeds; University College, Bristol; University College, Liverpool; The Firth College, Sheffield; University College, Nottingham; The University College of North Wales, Bangor; University College of Wales, Aberystwith; The University College of South Wales and Monmouthshire; The Engineering College, Cooper's Hill.

The Queen's College, Belfast; The Queen's College, Cork; The Queen's College, Galway; The College of Science, Stephen's Green, Dublin; The School of Mines, Dublin.

The Presidency Colleges in Calcutta, Madras, and Bombay. The Thomasson Engineering College, and The Engineering College, Poona.

M'Gill University, Montreal; The University College of Toronto; Queen's University, Kingston, Ontario; The University of Sydney; The University of Melbourne; and The University of Adelaide; Wellington College; The University of Otago; Dalhousie College, Halifax, Nova Scotia; Stellenbosch College, South Africa.

The University of Harvard; The University of Yale; The Johns Hopkins University.

The Universities, and Polytechnic Schools supported and regulated or recognised by the governments of the respective Countries of Europe.

EXAMINATIONS.

For the Degree of Bachelor of Science, there are two Examinations, conducted by written questions, as well as orally and practically.

(*a.*) FIRST BACHELOR OF SCIENCE EXAMINATION.

1. The First Examination for B.Sc. is as to the general knowledge of the Candidate on the following subjects, viz. :—

MATHEMATICS.	ZOOLOGY, including COMPARATIVE ANATOMY.
NATURAL PHILOSOPHY.	BOTANY.
CHEMISTRY.	

2. The Examinations in Mathematics and Natural Philosophy take place on the days announced for these subjects in the *Regulations for Graduation in Arts.*

3. The Examinations in Chemistry, Zoology, and Botany take place at the same time as the examinations on these subjects announced in the *Regulations for Graduation in Medicine.*

4. Candidates may appear for this Examination at the first period of Examination subsequent to their attendance on the necessary classes. It may be taken at one period, or at separate periods: Mathematics and Physics must be taken together; Chemistry, Zoology, and Botany may be taken together or in the following alternative subdivisions, namely—(*a*) Botany and Natural History, (*b*) Chemistry (including Practical Chemistry), (*c*) Botany and Chemistry (including Practical Chemistry), or (*d*) Natural History and Chemistry (including Practical Chemistry), at the first period of examination after they have completed attendance on the relative classes; and may proceed to examination in the remaining subject or subjects at a subsequent period of examination.

5. Masters of Arts who have taken honours in the Natural Sciences after passing the Examinations for M.A. in this University are exempted from the First Bachelor of Science Examination.

6. Holders of departmental certificates in the Department of Mathematics in this University are exempted from Examination in Mathematics and Natural Philosophy.

7. Candidates who have passed the First Professional Examination for Degrees in Medicine in this University are exempted from Examination in Chemistry, Zoology, and Botany.

(*b.*) SECOND BACHELOR OF SCIENCE EXAMINATION.

1. The Second B.Sc. Examination is divided into the following groups, one of which must be professed by the candidate:—

(*a.*) THE MATHEMATICAL SCIENCES, .	Higher Mathematics, Natural Philosophy.
(*b.*) THE PHYSICAL EXPERIMENTAL SCIENCES, ...	Experimental Physics, Chemistry.
(*c.*) THE NATURAL SCIENCES, . .	Zoology, Botany, Physiology, Geology.

2. The Examinations in the first two of these departments will take place at the same time as the Examination for the Degree of M.A., with Honours, and in the third, at the same time as the Examination for the First M.B. Professional Examination.

3. Candidates may proceed to the Second B.Sc. Examination at the next periodical Examination after passing the First.

4. Candidates who have passed the First B.Sc. Examination, and have taken Honours in the Department of Mathematics for the Degree of M.A. in this University, are exempted from the Second B.Sc. Examination in the Department of the Mathematical Sciences.

5. A Candidate who has passed the First and Second B.Sc. Examinations, and otherwise complied with the Regulations for Graduation, will be recommended to the Senatus for that Degree, which will be conferred at one of the usual times appointed for giving Degrees, on the Candidate giving at least one day's notice of his intention to graduate.

(*c.*) DOCTOR OF SCIENCE EXAMINATION.

1. Candidates may present themselves for the D.Sc. Examination twelve months after passing the Second B.Sc. Examination.

2. A Candidate for the Degree of D.Sc. must profess one of the following branches of Science, viz.: Mathematics, Natural Philosophy, Chemistry, Zoology and Comparative Anatomy, Botany, Animal Physiology, Geology, including Palæontology, and in it he will be expected to show a thorough knowledge.

3. He must submit a Thesis containing either an account of original work done by him, or historical or critical research connected with the special subjects of his Examination. The Thesis must be approved before the candidate is allowed to proceed to Examination.

The Thesis must be sent to the Convener of the Science Degrees Committee on or before 30th April in the year in which the Candidate proposes to graduate.

4. The Degree of D.Sc. will not be conferred on any Candidate who has not completed his 21st year.

OUTLINE OF SUBJECTS OF EXAMINATION FOR DEGREES IN SCIENCE.

FIRST BACHELOR OF SCIENCE EXAMINATION.

1. MATHEMATICS.
2. NATURAL PHILOSOPHY.

The Examinations in these subjects are the same as those for the Degree of M.A. in the Department of Mathematics (p. 113).

3. CHEMISTRY.
4. ZOOLOGY AND COMPARATIVE ANATOMY.
5. BOTANY.

The Examinations in these subjects are the same as those for the First Professional Examination in Medicine (see pp. 370, 371).

SECOND BACHELOR OF SCIENCE EXAMINATION.

(*a.*) THE MATHEMATICAL SCIENCES.[1]

The Examination is the same as for the Degree of M.A. with Honours in Mathematics (see p. 116).

(*b.*) THE PHYSICAL EXPERIMENTAL SCIENCES.

1. EXPERIMENTAL PHYSICS.

Candidates will be required to show considerable knowledge of the processes required for the determination of physical constants—such as, for instance, *the Specific Heat, the Specific Inductive Capacity, the Thermal and Electric Conductivity of a substance; the Velocity of Light, or of Sound; the Magnetic Dip, Variation, and Horizontal Intensity, &c., &c.*

2. CHEMISTRY.

Inorganic Chemistry.
Organic Chemistry.
Relation between Chemical and Physical Properties.
Complex Qualitative Analysis, Simple Quantitative Determinations, and the preparation of pure reagents. [*This part of the Examination will be conducted practically.*]

(*c.*) THE NATURAL SCIENCES.

1. ZOOLOGY AND COMPARATIVE ANATOMY.

(*a.*) A fuller knowledge of the Principles of Biology and of Systematic Zoology than is required for the 1st B.Sc. Examination, together with the Elements of the Comparative Anatomy of the Invertebrata and Vertebrata.

(*b.*) The Anatomy and Comparative Histology of *Actinophrys*, Actinosphaerium, Thalassicolla, *Collozoum*, *Vorticella*, *Podophrya*, Stentor, Grantia, Halisarca, Campanularia, *Hydractinia*, *Aurelia*, *Actinia*, *Alcyonium*, *Beroe*, Asterias, Echinus, Cucumaria, Antedon, Amphiporus, *Clepsine*, *Sipunculus*, *Lumbricus*, Aphrodite, Nereis, Notomastus, Polyophthalmus, Sagitta, *Balanoglossus*, *Lepas*, *Cancer*, *Peripatus*, *Bombyx*, Mygale, Pecten, Doris, Arion, *Patella*, Buccinum, Aplysia, Phyllirrhoe, *Loligo*, *Ascidia*, *Amphioxus*, Myxine, *Petromyzon*, *Scyllium*, Pleuronectes, *Triton*, Testudo, *Lacerta*, Tropidonotus, Talpa.

[1] Candidates who have passed the First B.Sc. Examination, and have passed in the Department of Mathematics for the M.A. Degree with Honours, will be held, on paying the fee, to have passed the Second B.Sc. Examination in the Department of the Mathematical Sciences.

(*c.*) The Anatomy of the Skeletal Structures of:—Halichondria, Euplectella, Hyalonema, Campanularia, Sertularia, Stylaster, Millepora, Antipathes, Caryophyllia, Fungia, Gorgonia, Corallum, Tubipora, Flustra, Spatangus, Synapta, Serpula, Terebratula, Nautilus, Argonauta, Spirula, Chiton, Lepidosteus, Acipenser, Chimæra, Protopterus, Menopoma, Monitor, Python and Naja (skulls only), Crocodilus, Struthio, Echidna, Ornithorhynchus, Thylacinus (skull only), Phocaena, Felis tigris (skull only), Cervus, Canis, Sus, Equus, Mus, Erinaceus, Vampyrus, Mycetes (skull only), Macacus (skull only), Troglodytes, Homo, also of the extinct forms Archæopteryx, Ichthyornis, Hesperornis, Dinornis and Campsognathus.

(*d.*) The external characters and appendages of Apis, Scolopendra, Julus, Scorpio, Epeira, Gammarus, Oniscus, Apus, Birgus, Pagurus, Mysis, Pycnogonum, Palæmon, Limulus, Musca.

(*e.*) Development and Life History of Paramœcium, Dicyema, Spongilla, Sycandra, Velella, Physophora, Yungia, Aspidogaster, Archigetes, Tænia, Lineus, Rhabditis, Echinorhynchus, Trochosphæra, Lopadorhynchus, Nais, Bonellia, Phoronis, Sagitta, Echinus (and the various forms of Echinoderm larvae), Periplaneta, Cyclops, Penaeus, Mysis, Squilla, Sacculina, Mytilus, Lymnæus, Appendicularia, Pyrosoma, Salpa, Clupea, Gallus, Lepus, and also of the forms in italics in section *b*.

(*f.*) A knowledge of the principles of distribution and classification, and of the theory of Natural Selection.

(*g.*) Candidates will be required to prepare and mount specimens for microscopic examination.

II. ANIMAL PHYSIOLOGY.

The whole of Human Physiology, including the minute structure of the various Tissues and Organs.

The Comparative Physiology of the Brain and Spinal Cord in Vertebrates.

The chief Phenomena in the Development of a Bird.

The Candidate will be expected to recognise and describe specimens under the microscope, to perform operations in Physiological Chemistry, and to be acquainted with the principal apparatus used in Experimental Physiology.

Text-Books.—Text-Book of Physiology by Foster, or that by Landois. Embryology, Part I., by Foster and Balfour.

III. BOTANY.

I.—Morphology.

1. (*a.*) General:—Doctrine of the Cell; its historical development. Structure of the Cell; its forms and patterns. Protoplasm, the nucleus and nucleolus, plastids. Substances in protoplasm. Forms of cell-

formation. Tissues, their kinds and formation. Primary disposition of tissues. Secondary changes in tissues and growth in thickness. Differentiation of the plant into members, the relationships of the members, their development. Branching, its forms. Metamorphosis of members, and the spiral theory. Special features of the flower; its development. Fruits, their forms and development Buds and their modifications; their development. Hairs. Sporangia and their modifications and development. The Seed, its structure and development. Sexual organs, their forms and development.

(*b.*) Special (1)—The principal facts in the life history of the following:—Gomphonema, Fuligo, Protococcus, Nostoc, Bacterium, Vaucheria, Pandorina, Pediastrum, Œdogonium, Coleochœte, Spirogyra, Closterium, Chara, Laminaria, Fucus, Polysiphonia, Nemalion, Dudresnaya, Batrachospermum, Corallina, Protomyces, Entyloma, Mucor, Pythium, Saprolegnia, Podosphaera, Eurotium, Penicillium, Polystigma, Xylaria, Claviceps, Ascobolus, Tuber, Saccharomyces, Collema, Usnea, Parmelia, Puccinia, Endophyllum, Agaricus, Phallus, Anthoceros, Radula, Riccia, Marchantia, Sphagnum, Andreæa, Funaria, Polytrichum, Hymenophyllum, Aspidium, Osmunda, Salvinia, Pilularia, Marsilea, Isöetes, Ophioglossum, Marattia, Equisetum, Lycopodium, Selaginella, Cycas, Pinus, Taxus, Avena, Scilla, Dracæna, Orchis, Ulmus, Digitalis, Helianthus, Vicia, Capsella. Details not of obvious significance from the point of view of Comparative Morphology, will not be required.

(2) The flower and fruit characters of the following Natural Orders:—Coniferæ, Cycadaceæ, Gramineæ, Cyperaceæ, Alismaceæ, Aroideæ, Palmæ, Juncaceæ, Liliaceæ, Amaryllideæ, Irideæ, Scitamineæ, Orchideæ, Salicineæ, Cupuliferæ, Urticeæ, Euphorbiaceæ, Loranthaceæ, Thymeleaceæ, Polygonaceæ, Chenopodiaceæ, Labiatæ, Acanthaceæ, Scrophularineæ, Solanaceæ, Convolvulaceæ, Boragineæ, Polemoniaceæ, Gentianeæ, Asclepiadeæ, Apocynaceæ, Primulaceæ, Ericaceæ, Vacciniaceæ, Campanulaceæ, Compositæ, Dipsaceæ, Valerianeæ, Rubiaceæ, Caprifoliaceæ, Umbelliferæ, Cacteæ, Cucurbitaceæ, Myrtaceæ, Saxifragaceæ, Rosaceæ, Leguminosæ, Sapindaceæ, Rhamneæ, Ilicineæ, Rutaceæ, Geraniaceæ, Lineæ, Tiliaceæ, Malvaceæ, Hypericineæ, Caryophylleæ, Polygaleæ, Violarieæ, Resedaceæ, Cruciferæ, Papaveraceæ, Nymphæaceæ, Berberideæ, Ranunculaceæ.

Candidates will be expected to be able to draw floral diagrams showing the relations of parts of the flowers in those orders, and to be acquainted with the theoretical explanations of the more important anomalous and divergent types belonging to them. This section, 2, will be especially dealt with in the practical examination, and need not form part of the written examination.

2.—Taxonomy.

Principles of plant classification. The History of its development and the influence upon it of the dogma of the constancy of species, and

of descent. The methods associated with the names of—Cesalpino, Ray, Linnaeus, de Jussieu, de Candolle, Brown, Hofmeister, Hooker.

3.—Distribution.

The elements which determine distribution and dispersion of plants. The leading facts of geographical distribution. Theories of Insular and mountain Floras. The leading facts of palaeophytology, and their bearing on the theory of descent.

4.—Physiology.

Sustentative function of plants. Materials of plant food, their sources. Absorption of food material; its synthesis and distribution in the plant. Parasitism. Saprophytism. Metabolism. Vegetable digestion and assimilation. Respiration. Transpiration. Movement of gases and liquids in plants. Growth. Properties of growing parts. Conditions requisite for and affecting growth. Germination. Correlation of growth. Irritability and Contractility of protoplasm. The adaptation of tissues and members to function. Reproductive function of plants; History of the subject. Agamogenesis and Gamogenesis. Embryogeny. Alternation of generations. Apogamy and Parthenogenesis; Apospory. Self and Cross fertilisation and the theory of fertilisation. Hybridism. Variation. Heredity. Special phenomena in flowering plants.

The following English books are recommended:—De Bary's "Comparative Anatomy of the Vegetative Organs of the Phanerogams and Ferns"; Gocbel's "Outlines of Classification and Special Morphology of Plants"; Sachs' "Lectures on the Physiology of Plants"; De Bary's "Comparative Morphology and Biology of Fungi, Mycetoza, and Bacteria"; De Bary's "Lectures on Bacteria"; Sachs' "History of Botany"; Solms' "Introduction to Palaeophytology"; Hooker's "Descriptive and Analytical Botany of Le Maout and Decaisne."

IV. GEOLOGY, INCLUDING PALÆONTOLOGY AND MINERALOGY.

Physical Geography, Meteorology, and Dynamical Geology—The nature and operation of Geological agents: Rain, Rivers, Ice, the Sea, Earthquakes, Volcanoes, Movements of Upheaval and Depression.

Mineralogical and Petrological Geology—Characters of Rock-forming Minerals: Macroscopic and Microscopic Characters, Composition, Origin, and Distribution of Rocks.

Structural Geology—The Structure of Rock-masses, Bedding, Joints, Cleavage, Foliation, Metamorphism, Faults, Unconformability, Denudation.

Stratigraphical Geology—The History of the Geological Formations of the British Islands.

Palæontological Geology—Characters, and distribution in time, of the more important Genera and Orders found fossil in Britain.

DOCTOR OF SCIENCE EXAMINATION.

I. MATHEMATICS.

The candidate will be required to show very high attainments in two at least of the following subjects :—

1. Pure Geometry, including Modern Geometry and Trigonometry.
2. Analytical Geometry.
3. Algebra, including Higher Algebra and the Theory of Numbers.
4. The Differential and Integral Calculus generally.
5. Special departments, such as the Calculus of Variations, Quaternions, &c.

II. NATURAL PHILOSOPHY.

Candidates who select Physics or Applied Mathematics are required to pass a searching examination in one of the following nine subjects or groups of subjects, and to shew more than a mere elementary knowledge of at least two others :—

(A.) APPLIED MATHEMATICS.

1. *Abstract Dynamics*, including *Kinematics*.
2. *Acoustics* and *Theory of Light*.
3. *Conservation of Energy* including the *Dynamical Theory of Heat*.
4. *Electricity*, including the mathematical theories of *Static and Voltaic Electricity*, *Induction*, *Magnetism*, *and Electro-Magnetism*.
5. *Physical Astronomy*, including the *Lunar and Planetary Theories*, the *Figure of the Earth*, *Precession*, *and Nutation*.

(B.) EXPERIMENTAL PHYSICS.

6. *Properties of Matter*.
7. *Sound and Light*.
8. *Heat and Energy* (generally).
9. *Electricity*, *Magnetism*, &c.

(C.) PRACTICAL ASTRONOMY.

1. The Principles and Practice of astronomically finding the geographical co-ordinates of the place of observation on land and at sea.
2. The Principles that guide the actual determination of the chief astronomical constants of *refraction*, *aberration*, *nutation*, *precession*, and *solar-parallax* in fixed observatories.
3. An account of the methods hitherto used for determining the figure and size of the earth.

One group of observations must have been made in the field, or at an observatory, and fully reduced so as to show the value of the derived results, and the precautions that have been taken to free them from instrumental and personal errors. Candidates will also be examined as to the best ways of testing the critical parts of instruments, such as a *pivot*, *screw*, *level*, &c.

III. CHEMISTRY.

The candidate will be required to pass a searching examination in one of the following branches :—

1. The Chemistry and Chemical Technology of Inorganic Bodies, including Metallurgy.
2. Organic Chemistry.

And to shew a thorough practical acquaintance with Chemical Analysis in all its branches, and with the preparation of pure substances.

IV. ZOOLOGY AND COMPARATIVE ANATOMY.

The same subjects as for the Bachelor of Science Examination, along with a competent knowledge of the structure, development, and classification of a special group to be selected by the Candidate and approved by the Examiner.

V. ANIMAL PHYSIOLOGY.

The candidate will be expected to show a thorough knowledge of Human Physiology, together with the Comparative Physiology of the Nervous System. He will also be expected to show an extensive practical knowledge of Histology, Physiological Chemistry, and Experimental Physiology.

VI. BOTANY.

The Candidate will be required to pass a searching examination in one of the following branches :—

1. Morphology.
2. Physiology.
3. Taxonomy and Distribution,

and to show a competent knowledge of the two others. He will be expected to show a thorough practical knowledge of the branch he selects, and will also be examined practically in the other two.

VII. GEOLOGY, INCLUDING PALÆONTOLOGY AND MINERALOGY.

In addition to a more searching test of the knowledge of the subjects prescribed for the Second Bachelor of Science Examination, Candidates will be required to show some acquaintance with the Geology and Palæontology of foreign countries as well as of the British Islands. It will be necessary that they evince sound practical knowledge. To test their acquirements in this respect, they will be asked to identify and describe specimens of minerals, rocks, and fossils placed before them ; and from a geological map, which will be furnished to them, to write a paper (with sections) on the geology of the district to which the map refers.

D.—DEGREES OF BACHELOR AND DOCTOR OF SCIENCE IN THE DEPARTMENT OF ENGINEERING.

The Degrees of *Bachelor of Science* and *Doctor of Science* are open to Candidates submitting themselves for examination in Engineering according to the subjoined Rules.

1. Candidates must have the qualifications in general education required for Degrees in Natural and Physical Science.

2. There will be two examinations for the Degree of *Bachelor of Science*, and a subsequent examination for the Degree of *Doctor of Science*. The examinations are written, oral, and practical.

3. The first examination is as to the general knowledge of the Candidate on the following subjects, viz. :—

MATHEMATICS.
NATURAL PHILOSOPHY.
CHEMISTRY.

The examination is the same as the examination in these subjects for Degrees in Physical and Natural Science.

4. This examination is called the *First Bachelor of Science Examination in Engineering.*

5. Candidates who have passed the *First Bachelor of Science Examination* (or who have been exempted from it), may proceed to the *Second Bachelor of Science Examination* at the next periodical Examination after passing the First. The Examination will be in the following subjects:—

DYNAMICS.
ENGINEERING.
DRAWING.

6. Candidates, after passing the Second Examination, and otherwise complying with the Regulations for Graduation, will be recommended to the Senatus for the Degree of Bachelor of Science on their giving at least one day's notice of their intention to graduate.

7. Candidates who have received the Degree of B.Sc. in the Department of Engineering, and who desire to proceed to the Degree of *Doctor of Science*, may present themselves for examination after the expiry of twelve months from the date of their passing the Second B.Sc. Examination.

8. The examinations will be conducted by University Examiners, and the special Examiner appointed by the University Court.

9. The Degree of D.Sc. will not be conferred on any Candidate until he has completed his 21st year.

FIRST BACHELOR OF SCIENCE EXAMINATION.

OUTLINE OF SUBJECTS OF EXAMINATION.

(*a.*) MATHEMATICS.
(*b.*) NATURAL PHILOSOPHY.

The Examinations in Mathematics and in Natural Philosophy are the same as for First B.Sc. Examination in Natural and Physical Science. (See p. 474.)

(*c.*) CHEMISTRY—

Same as for First B.Sc. Examination in Natural and Physical Science. (See p. 475.)

SECOND BACHELOR OF SCIENCE EXAMINATION.

(*a.*) DYNAMICS—

The Applications of Mathematics (as far as the Elements of the Differential and Integral Calculus) to

Kinematics.

Statics of Rigid Solids, Elastic and Perfectly Flexible Bodies, and Perfect Fluids.

Attraction.

Kinetics of a Particle, of a Flexible Cord, and of a Rigid Solid.

The Simpler Portions of Kinetics of Perfect Fluids.

(*b.*) ENGINEERING—

Field-Work. — Surveying; Levelling; Setting out of Work; Calculation of Quantities.

Properties of Materials.—General Properties, with special knowledge of their Strength, and the Purposes to which they are applied, and some knowledge of their Cost.

Strength and Stability of Structures Designed by Civil Engineers.—Metal and Timber Bridges and Roofs. Arches in Masonry. Walls. Retaining Walls. Embankments. Cuttings. Breakwaters. Aqueducts. Pipes. Canals.

Strength and Form of the Elements of Machines.

Design of Combined Structures.—An elementary knowledge of the Design of Bridges and Roofs, of Reservoirs, Embankments, collecting and distributing Machinery of Waterworks, and of the main features of Railway construction, Harbours, and Drainage.

Design of Machinery.—An elementary knowledge of the construction of the Steam Engine, stationary and locomotive, of Prime Movers driven by Water, of Mill-wright work, and the general arrangement of Workshops and Factories.

Prime Movers.—Theory of Heat Engine. The Hot Air Engine. The Steam Engine. The Gas Engine. Turbines and Water Wheels. *Power Transmission* — Telodynamic, Hydraulic, Electric.

(*c.*) DRAWING—

Candidates must exhibit a good knowledge of Geometrical Drawing, and be able to represent neatly, in the usual manner employed by engineers, Plans and Sections of Buildings and Machinery, and also to make Engineering Sketches with figured dimensions from actual objects.

DOCTOR OF SCIENCE EXAMINATIONS.

1. Every candidate for this Degree must have been engaged for at least two years under an engineer in actual practice. He will be examined in one, and not more than one, of the sub-divisions in each of the two following groups of subjects :—

I.—PRACTICAL ENGINEERING,
- (*a.*) The design of Machinery, with complete Drawings, Specifications and Estimates.
- (*b.*) The preparation of Designs, Specifications, and Estimates for Civil Engineering work.

II.—APPLIED SCIENCE, . .
- (*a.*) Applied Mathematics.
- (*b.*) Technological Chemistry.
- (*c.*) Geology.
- (*d.*) One Branch of Natural Philosophy.
- (*e.*) Telegraphy.

2. The class of machinery, or the particular engineering work on which the student is examined, will be chosen with reference to the character of the work upon which he has been specially engaged.

3. Candidates will be tested as regards their knowledge of the subjects of Group I. by their being required to submit, as their own work, a complete set of drawings, specifications, and estimates for some proposed project or piece of machinery, for the preparation of which a month or five weeks will be allowed.

These drawings, &c., together with the detailed calculations upon which they have been based, will be sent in to the Examiners ; and on their being approved, the candidate will be subjected to a searching examination for the purpose of verifying the authenticity of the work submitted, and of ascertaining the sufficiency of the candidate's professional ability.

4. A high degree of proficiency will be required from the candidate.

E.—DEGREES OF BACHELOR AND DOCTOR OF SCIENCE IN THE DEPARTMENT OF PUBLIC HEALTH.

Two Degrees in Science in the Department of Public Health are conferred by the University of Edinburgh, viz., Bachelor of Science (B.Sc.) and Doctor of Science (D.Sc.).

I. BACHELOR OF SCIENCE.

1. Every Candidate for Graduation in Science in the Department of Public Health must be a Graduate in Medicine of a University of the United Kingdom, or of a Colonial, Indian, or Foreign University specially recognised by the University Court.

2. Every Candidate must be matriculated for the year in which he appears for examination or graduation.

3. There are two Examinations for the Degree of Bachelor of Science in the Department of Public Health.

4. Every Candidate who desires to proceed to the first examination for the said Degree must produce evidence—(*a*) that he has taken a Degree in Medicine in the University of Edinburgh, or in a University recognised under section 1 hereof; (*b*) that he has worked for at least six months, or the usual winter session, in a Laboratory where practical instruction is given in the methods of investigating subjects pertaining to Public Health. This course must be attended, after Graduation in Medicine, either in the Public Health Laboratory of the University of Edinburgh, or in a Laboratory in which instruction in Public Health is given, and which has, after due enquiry, been recognised by the University Court.[1]

5. Laboratories are not recognised for the purpose referred to in section 4 (*b*), in which provision is not made for the teaching of Public Health Laboratory work in accordance with the Schedule of Laboratory work issued by the Senatus, as provided in section 10 hereof, nor will they be recognised if such work is not taught by a specially recognised teacher.

6. Candidates shall not be admitted to the Second Examination for the said Degree until one year after taking a Degree in Medicine, nor until an interval of at least three months has elapsed after passing the First Examination.

7. Every Certificate of Laboratory attendance must bear that the Candidate worked during his period of attendance for at least fifteen hours per week.

8. Every Candidate who desires to proceed to the second examination for the said Degree must produce evidence—(*a*) that he has attended

[1] Laboratory and Teacher recognised under this section:—Public Health Laboratory of University College, Dundee, Professor Percy F. Frankland, Ph.D., 16 February 1891.

in this University at least two courses of instruction on subjects included in the Examinations set forth in section 10 hereof; (*b*) that he has attended a course of lectures in which instruction is given in Public Health; and (*c*) that after having obtained a Registrable Qualification in Medicine, he has practically studied the duties of Out-door Sanitary work under the Medical Officer of Health of a county or of a large urban district for a period of not less than six months.[1]

9. The subjects of the Examinations for the Degree of Bachelor of Science in the Department of Public Health shall be as follows:—

(*a*) For the First Examination:—1. Laboratory work. The Examination in this department is conducted practically, and by a Written Examination in which the Candidate shall be required to explain the rationale of the investigations contained in the schedule of Laboratory work referred to below. There is also an Oral Examination. 2. Elements of Experimental Physics. The Examination in this Department is conducted by means of written papers, followed by an Oral Examination.

(*b*) For the Second Examination:—1. Medicine in its application to Public Health. 2. Practical Sanitation. 3. Sanitary Law and Vital Statistics. 4. Mensuration and Drawing.

The Examinations in these departments are conducted by means of written papers, and also as far as possible practically; and an Oral Examination in each department is held after the Written Examinations.

10. Detailed Schedules of the subjects of Examination in each department named in section 10 will be issued from time to time by authority of the Senatus.

Schedules of the Subjects of Examination.

Laboratory Work.

(1.) *Examination of Water.*—Physical Properties, Chemical Properties, Microscopical Appearances, Pollution of Potable Waters.

(2.) *Examination of Air.*—Temperature, Pressure, Humidity; Carbonic Acid, Ozone, Micro-organisms, Organic Matter, Noxious Emanations.

(3). *Examination of Foods.*—Milk, Butter, Butterine, or Oleomargarine, Flour, Bread, Starchy foods, Sugar, Honey, Butcher meat, Fish, Vegetables.

(4.) *Examination of Beverages.*—Tea, Coffee, Cocoa, Alcoholic Beverages, Aërated Waters.

(5.) *Examination of Condiments.*—Salt, Pepper, Mustard, Vinegar, and Preserves; Examination of Lime Juice. Nutritive Value of Dietaries.

(6.) *Sewage.*—Examination of sewage and of effluents after treatment.

[1] Requirement (*c*) does not in the meantime apply to Candidates who had obtained a Registrable Qualification on or before 1st January 1890.

(7.) *Soils.*—Temperature, Humidity, Permeability, Chemical Composition, Gases of the Soil, Micro-organisms.

(8.) *Disinfectants and Deodorisers.*—Chemical Examination of the Materials, Determination of their comparative power.

(9.) *Building Materials.*—Chemical and Physical Properties.

(10.) *Clothing.*—Physical Properties of Clothing Materials.

(11.) *Bacteriology.*—Micro-organisms in relation to Epidemic and other Diseases.

PHYSICS.

(1.) *Laws of Motion and Properties of Matter.*—Elasticity, Density, Porosity, Divisibility, Viscosity, &c.

(2.) Elements of Dynamics of Solid and Fluid Bodies.

(3.) Elementary Experimental Facts regarding Energy in the common phenomena of Sound, Light, Heat, Electricity, and Magnetism.

(4.) *Elements of Astronomy.*—Causes of Tides, Eclipses, Aberration, Precession, &c.

MEDICINE IN ITS APPLICATION TO PUBLIC HEALTH.

The General Pathology of Endemic, Epidemic, and other morbid Processes induced by Environment.

The Causes, Clinical History, Diagnosis, Prognosis, and Prevention of Endemic and Epidemic Diseases, as well as of the Epizootics which affect Man; of the Contagious or Infectious Diseases; and of those incidental to particular trades, or otherwise produced by the surroundings of the patient.

PRACTICAL SANITATION.

(1.) *Site and Environment of Dwellings.*—Influence of Position, Aspect, and Climate; Meteorological and Geological Conditions; Soil and Drainage.

(2.) *Water Supply.*—Quantity per head; Relative Eligibility of available Sources of Supply; Estimation of yield; Methods of utilising various Sources of Supply; Storage, Subsidence, and Filtration; Distribution—(α) General, (β) Domestic; Causes, Detection, and Treatment of contaminated Supply.

(3.) *Air Supply.*—Quantity and Temperature, with knowledge of use of instruments employed in their Measurement; Causes and Detection of Impurities; Warming and Ventilation; Characteristics and Fitness of various methods in use.

(4.) *Excreta, Refuse, and Sewage.*—Character and Quantity of in (α) Urban, (β) Rural Districts—

A. Collection and Removal from (1) the Dwelling, (2) the Town or Village; Nature, Practical details, and maintenance of the several methods employed.

B. Disposal: (1) Sanitary, (2) Insanitary methods; Precipitation, Filtration, Irrigation, Discharge; Design and details of necessary works.

(5.) *General Structural and Mechanical Details of Sanitary Works.*—Character, Fitness, and Qualities of Materials (Brick, Cement, Earthenware, Iron, Lead); Design, setting out, and laying of Sewers; Plumbing and Iron-work.

(6.) *Hospitals.*—Principles of Design and Construction.

(7.) *Infectious and Epidemic Diseases.*—Origin, Modes of Propagation, and Means of Prevention; Epizootics.

(8.) *Disinfectants.*—Selection and application.

(9.) *Effects of Insanitary Conditions.*—Insufficient house accommodation, Vitiation of Air, Impure Water, Bad or insufficient Food.

(10.) *Unhealthy Occupations.*—Means of mitigating or removing their unhealthiness.

(11.) *Nuisances.*—Urban, Rural, and Domestic.

(12.) *Disposal of the Dead.*—Burial, Cremation.

SANITARY LAW.[1]

Sanitary Administration. Laws affecting Factories, Workshops, Mines, Common Lodging-houses, Removal of Refuse, Nuisances, Rivers Pollution, Alkali Works, Burial Grounds, Unwholesome Food, Adulteration of Food and Drugs. Sale of Poisons.

VITAL STATISTICS.

Leading facts as regards Population, Birth and Death Rates, Distribution of Diseases.

MENSURATION AND DRAWING.

Computation of Areas and Volume; Scales; Elements of Orthographic and Isometric Projection; Figured or dimensioned sketches; Preparation and interpretation of contoured Maps, Plans, and Working Drawings.

II. DOCTOR OF SCIENCE.

12. Bachelors of Science in the Department of Public Health may, after the lapse of one year, proceed to the Degree of Doctor in the same Department, on producing evidence that they have been engaged in Practical Sanitation since they took the said Degree of Bachelor of Science, and on presenting a Thesis on some subject in the Department of Public Health. Every such Thesis must be certified by the Candidate to have been composed by himself, and must be approved of by the Examiners.

13. Every Candidate for the Degree of Doctor of Science in the Department of Public Health must lodge his Thesis with the Convener of the Science Degrees Committee of Senatus on or before the 30th April in the year in which he intends to graduate.

[1] A knowledge of the Sanitary Law of any part of the British Dominions will be sufficient.

14. No Thesis will be approved which does not contain either the results of original observations on some subject embraced in the Examination for the said Degree of Bachelor of Science, or else a full digest and critical exposition of the opinions and researches of others on the subject selected by the Candidate, accompanied for the purpose of verification, by precise references to the publications quoted.

F.—THE DEGREE OF BACHELOR OF SCIENCE IN THE DEPARTMENT OF AGRICULTURE.

1. In the Department of Agriculture the Degree of Bachelor of Science is the only Degree conferred.

2. The Rules as to a Preliminary Examination on subjects of General Education are the same as those for Graduation in the Department of Physical and Natural Science.

3. The Rules as to attendance on qualifying Classes for three Sessions are the same as those for Graduation in the Department of Physical and Natural Science; provided always (1.) that instead of one of such three years of attendance, a year may be spent on a Farm or Farms in pursuance of the practical study of Agriculture; (2.) That in the case of any subject in the Department of Agriculture, which is not taught in the University, attendance may be given at an Institution specially recognised by the University Court for purposes connected with Graduation in Science in that Department only;[1] and (3.) That, in the case of Agricultural Chemistry, attendance may be given on a course of Instruction thereon by any teacher of Chemistry who is recognised under the Regulations for Graduation in Medicine.

4. Each Candidate must produce a Certificate of attendance upon a Qualifying Class on each subject of Examination; and should he, instead of one of the three years of attendance on Classes required in Section 3, have spent a year in the practical study of Agriculture, he must produce a Certificate to that effect.

5. There are two Examinations for the Degree of Bachelor of Science in the Department of Agriculture. These Examinations are Written, Oral, and Practical.

6. The first Examination is in:—[2]

(1.) AGRICULTURE, to such an extent as may from time to time be fixed by the Senatus.

(2.) CHEMISTRY, to the extent required for the First Examina-

[1] The Institutions recognised for this purpose are:—The Royal Agricultural College, Cirencester; The College of Agriculture, Downton; The University College, North Wales, Bangor; and The Veterinary Colleges of the United Kingdom.

[2] This Examination may be taken at one period or in two divisions at separate periods. Candidates who have begun their Curriculum under the old regulations, which placed Engineering in the first Examination, and Geology in the second, are allowed to finish their studies under those regulations or comply with the altered regulations if they prefer to do so.

tion for the corresponding Degree in the Department of Physical and Natural Science.

(3.) BIOLOGY (*a*) BOTANY, or (*b*) NATURAL HISTORY, either subject, at the option of each Candidate.

In either case the Examination shall be to the extent required for the First Examination for the corresponding Degree in the Department of Physical and Natural Science.

(4.) GEOLOGY, in so far as bearing on Agricultural Science.

(5.) ECONOMIC SCIENCE, to such extent as may from time to time be fixed by the Senatus.

7. Candidates who have passed the First Examination may present themselves at the end of six months for the Second Examination.

8. The Second Examination is in :—[1]

(1.) AGRICULTURE and RURAL ECONOMY.

(2.) CHEMISTRY, as applied to Agriculture.

(3.) VETERINARY HYGIENE, to such extent as may from time to time be fixed by the Senatus.

(4.) ENGINEERING, to such extent as may from time to time be fixed by the Senatus.

9. Candidates who have passed the Second Examination will be recommended to the Senatus for the Degree of Bachelor of Science.

10. The Examinations are conducted by University Examiners appointed by the University Court, and an additional Examiner in Agriculture, to be appointed by the University Court, after communicating with the Council on Education of the Highland and Agricultural Society of Scotland, and considering any recommendation by them.

OUTLINE OF SUBJECTS OF EXAMINATIONS.

FIRST BACHELOR OF SCIENCE EXAMINATION.

1. AGRICULTURE: ITS SCIENTIFIC PRACTICE.

1. *Definition of Agriculture.*—Aid given by the Allied Sciences.

2. *Surface Geology.*—Formation and Classification of Soils—their Physical and Chemical Properties. Importance of Organic Nitrogen. Indications of good or bad Soils—the different Methods of Management.

3. *Drainage.* — Its Practice and Advantages — Irrigation—Wet-Warping — Mixing or Top-Dressing—Claying—Marling—Chalking—Liming—Paring and Burning—Clay-Burning. The Effect on Soils of Cultivation and the Growth of Plants.

4. *Implements and Machines of the Farm.*—The Importance of their proper Construction and Careful Management.

[1] See footnote 2, p. 488.

5. *Steam Cultivation.*—Its Advantages and Disadvantages.

6. *The Motive Powers Employed on the Farm.*—1st, Man; 2d, Horse; 3d, The Mechanical Powers (Water, Wind, and Steam)—their Comparative Values and Advantages.

7. *Farm Servants.*—Their Labour and Wages — Day-work and Piece-work. Detailed and total costs of Horse and Hand Labour.

8. *The Importance of Rotations.*—Different Rotations and reasons why they are adopted—Systems of Farming.

9. *Our Farm Crops* (Grain, Root, Forage, and Hay Crops).—Their Selection and Growth—Prevention of Insect Injuries and Diseases.

10. *Identification of Grasses and other Valuable Pasture Plants.*—Character and Habits of those of importance—Detection of Adulterations—Regulations necessary to protect the Farmer in buying Seeds.

11. *The Management of Permanent Pasture.*—Proper Methods of making new Pasture—its After-treatment.

12. *Weeds in Pastures* and Means of Destroying them.

13. *Silage and the System of Ensilage.*—Its Advantages, &c.—Its Suitability and Unsuitability according to Locality.

14. *Manures.*—Farm-yard Manure — its proper Mixing, Storing, and Application—its great advantage as a General Manure. Special Manures and so-called Artificials — their Uses, Abuses, and Adulterations — the proper Times and Methods of their Application. The Value and Use of Liquid Manure and Town Sewage.

15. *Buildings and Fences.*—The proper Construction of Fences—the General Arrangement of Farm-Buildings—the best Flooring and Inside Plans and Dimensions of Byres, Cattle-Sheds, Stables, &c.—Covered Yards—Ventilation—Drainage of Houses and Farm-yards.

2. CHEMISTRY.

3. BOTANY.

4. NATURAL HISTORY.

The Examinations in Chemistry, Botany, and Natural History are the same as for the First B.Sc. in Natural and Physical Science.

5. GEOLOGY AS BEARING ON AGRICULTURE.

(1.) *Physical Geography and Dynamical Geology.*—The nature and operation of Geological agents:—Rain, Underground Water, Rivers, Ice, the Sea, Life, Earthquakes, Volcanoes, Movements of Upheaval and Depression.

(2.) *Mineralogical and Petrological Geology.*—Characters of the principal Rock-forming Minerals: Composition, Origin, and Distribution of the more important and commonly occurring Rocks.

(3.) *Structural Geology.*—The Structure of Rock-masses, more especially Bedding, Joints, Faults, and Denudation.

(4.) *Agricultural Geology.*—Nature and Origin of Soils and Subsoils; Draining in connection with Geological Structure; Mineral substances used as Manures.

6. Economic Science as applied to Agriculture.

1. The Food Supply of the United Kingdom.
2. The Wages of Agricultural Labour.
3. The Profits of the Farmer.
4. The Rent of Land and Causes of Variations in Rent.
5. Contracts for the Hire of Land.
6. The Risks of Long Leases.
7. Compensation for Improvements.
8. Fixity of Tenure and its Effects.
9. The Prices of Agricultural Produce.
10. Foreign Competition.
11. Effects of the Appreciation of Gold and the Depreciation of Silver.
12. Effects of various Imperial and Local Taxes on Agriculture.

Second Bachelor of Science Examination.

1. Agriculture as for First B.Sc. and the following—

(1.) *Live-Stock, embracing Cattle, Pigs, Horses, Sheep*—The Various Breeds of each, and suitability of some to Local Conditions—"The Principles of Breeding." Feeding and Management—Cost of Feeding—Proper Mixtures of Food to Use. Cost of the Production of a Stone of Beef, Mutton, and Pork, showing the Amount of Profit in each Case.

(2.) *Dairying in all its Branches*, including the suitability or otherwise of surrounding Conditions—the proper Classes of Dairy Stock to keep, and their Management—the Treatment of Milk, and its Sale or Manufacture into Cheese, Butter, &c.

(3.) *Feeding Stuffs*—Suitability of the Common Food Substances to the Different Classes of Farm Stock—The Purchase, Storing, and Administration of the same—their Manurial Residues.

2. Agricultural Chemistry.

1. *Soil.*—Origin—Chemical and Physical Characters—Composition and Improvement of Soil—Functions of Soil.

2. *Plants.*—Constituents of Plants: Organic, Inorganic, and Proximate. Composition of Ash. Changes which take place during Plant Growth. Plant Food and its Sources.

3. *Manures.*—General Principles of Manuring. Composition and Nature of general and special Manures. Valuation and Adulteration of Manures. Valuation of Unexhausted Manure in Soils.

4. *Crops.*—Rotation. Cereal Crops. Leguminous Crops. Forage Crops. Root and Tuber Crops. Crop Residues.

5. *Live Stock.* Animal Nutrition. Constituents of Animals. Foods, Destination of Food. Digestibility and Comparative Nutritive Value of Foods. Water. Animals as Producers of Food and Manure.

6. *The Dairy.*—Constituents and Properties of Milk, Cream, Butter, Cheese, and minor products. Adulterations and Modes of Detection.

3. Veterinary Hygiene.

1. The Comparative Osteology (rudimentary) of the Horse, Ox, and Sheep.

2. The Physiology of Dentition in Horse, Ox, Sheep, and Pig, more especially as indicative of the Age of the Animal.

3. The Physiology of Gestation; the Diseases incidental to the pregnant state, and also those consequent to the act of parturition.

4. Description of the Digestive Organs of the Horse, Ox, and Sheep (separately), also their Physiology, and most ordinary Diseases.

5. Contagious and other Diseases of Farm Stock. Prevention and Treatment of Diseases.

4. Engineering.

1. *Engineering Field Work.*—Surveying, with special reference to Estate and Parish Surveying, Levelling, Plotting of Surveys and Sections, Calculation of Quantities.

2. *Mechanics.*—(*a*) Principles of Statics; couples; moments of forces; parallel and inclined forces; centre of gravity; moments of inertia; friction. (*b*) Principles of Kinematics and Kinetics; Newton's laws of motion; Conservation and transformation of energy.

3. *Strength and Properties of Structural Materials*, including their fitness and adaptability, together with some knowledge of their cost.

4. *Strength and Stability of Structures.*—General knowledge of the design, construction, and maintenance of Roads, Roofs, Bridges, Embankments, Retaining Walls, Aqueducts, and General Buildings.

5. *Hydraulics.*—The laws governing the flow of water in open and closed channels, and its discharge through orifices; Systems of Drainage and Irrigation; Pumps, &c.

6. *Mechanism and Machinery.*—General Principles and means of transmission, conversion, and modification of motion; general millwright work with special reference to the machines ordinarily employed for agricultural purposes.

7. *Prime Movers.*—A knowledge of the sources and modes of estimating power; The Steam Engine; Pneumatic Machines; Hydraulic Motors, Water-wheels, Turbines, &c.

FEES.[1]

The following are the fees payable for Degrees in Science:—[2]

1. Departments of Physical and Natural Science and Engineering—

For the preliminary examination, or for registration of qualification, ...	£1	1	0
For the First Bachelor of Science examination,	2	2	0
For the Second Bachelor of Science examination,	2	2	0
For the Doctor of Science examination, . .	5	5	0
	£10	10	0

2. Department of Public Health—

For the First Examination for the Degree of Bachelor, ...	£5	5	0
For the Second do. do.,	5	5	0
For the Degree of Doctor, ...	5	5	0
	£15	15	0

3. Department of Agriculture—

For the Preliminary Examination, or for Registration of any exempting Qualification, .	£1	1	
For the First Bachelor of Science Examination	2	2	0
For the Second do. do.	2	2	0
	£5	5	0

In the event of a Candidate not passing, the fee is not returned, but he may appear at *one* subsequent Examination without paying an extra fee, and at any future Examination on paying one-half of the fee.

Every Candidate for Graduation is required to pay the Fee of £1 for Registration as a Member of the General Council of the University, at least one clear day before the date of Graduation.

All communications relating to the Curriculum and Examinations for degrees in the department of the Mathematical, Physical, and Natural Sciences, Engineering, Public Health, and Agriculture, and to Examinations for Science Fellowships and Scholarships, &c., should be addressed to *The Convener of the Science Degrees Committee*, at the

[1] When names are not entered nor fees paid on or before the stated dates, a late entry fee of ten shillings must be paid before the Candidate can be admitted to examination. A Candidate is not held to be entered for the Examination until his Name is entered, all the necessary Certificates, &c., lodged, and the Fee paid.

Every Candidate, unless a member of the General Council, is required before graduation to pay the Fee for Registration of £1, now made compulsory by Act of Parliament.

[2] Candidates should apply for their Diplomas at the Matriculation Office, immediately after obtaining the Degree. There is no additional charge for the Diploma. Any Graduate who cannot apply personally for his Diploma, is required to give written authority to some person to receive and give a receipt for it.

office of the Faculty of Medicine, University New Buildings, where the Schedules for Examinations are issued and the Certificates of Candidates examined.

The Examination Fees are payable at the *Matriculation Office*, University, on Certificate from the Convener of the Science Degrees Committee that the necessary Matriculation Tickets and Class Certificates have been examined. The Matriculation and Registration Fees are also payable at the *Matriculation Office*. When Candidates cannot attend personally to pay the fees, they should transmit them to the Clerk of the University, by crossed *Post Office* or *Postal Orders*, or by *Bank Drafts only*, and not by cheques on private accounts.

DATES OF EXAMINATIONS AND FOR PRESENTING CERTIFICATES AND PAYMENT OF FEES.

Preliminary Examination in General Education. 6th, 7th, 8th, and 9th October 1891; and 1st, 2nd, 3rd, and 4th March 1892. Hours at pages 362, 363.

Names to be given in and Fees paid on or before 1st October 1891, and on or before 24th February 1892.

MATHEMATICAL, PHYSICAL, AND NATURAL SCIENCES.

First B.Sc. Examination. Mathematics, 13th October 1891, at 2.30 P.M., and 14th October, at 9 A.M.; 4th April 1892, at 3 P.M., and 5th April at 9 A.M.; Natural Philosophy, 15th October 1891, at 1 P.M., and 6th April 1892, at 1 P.M. Names to be given in, certificates shown, and fees paid on or before 5th October and 14th March; Chemistry, 20th July 1891, and 21st March 1892, at 11 A.M.; Botany, 20th July 1891, and 21st March 1892, at 2 P.M.; Zoology, 21st July 1891, and 22nd March 1892, at 11 A.M.; Practical Chemistry, 22nd July 1891 and following days, and 23rd March 1892 and following days. Names to be given in, certificates shown, and fees paid on or before 13th July and 14th March.

Second B.Sc. Examinations, Mathematical Sciences. Mathematics, 8th April 1892, 9 to 12 A.M. and 1 to 4 P.M.; Natural Philosophy, 9th April 1892, 9 to 12 A.M. and 1 to 4 P.M. **Physical Experimental Sciences** (Physics), 15th October 1891, and 9th April 1892, 1 to 4 P.M.; (Chemistry), 20th July

1891, and 21st March 1892, at 11 A.M. and 2 P.M. The Practical Examination in the Laboratory will be held shortly after the Written Examination. **Natural Sciences** (Zoology), 21st July 1891, and 22nd March 1892, at 11 A.M.; (Botany), 20th July 1891, and 21st March 1892, at 2 P.M.; (Physiology), 20th July 1891, and 21st March 1892, at 11 A.M.; (Geology), 21st July 1891, and 22nd March 1892, at 2 P.M. Names to be given in, certificates shown, and fees paid on or before 13th July and 5th October 1891, and 14th March 1892 respectively.

ENGINEERING.

First B.Sc. Examination. Chemistry, 20th July 1891, and 21st March 1892, at 11 A.M. Practical Chemistry, 22nd July 1891, and 23rd March 1892, and following days. Mathematics, 13th October 1891, at 2.30 P.M., and 14th October, at 9 A.M., 4th April 1892, at 3 P.M., and 5th April, at 9 A.M.; and in Natural Philosophy, on 15th October 1891, and 6th April 1892, at 1 P.M. each day. Names to be given in, certificates shown, and fees paid on or before 13th July and 5th October 1891, and on or before 14th March 1892.

Second B.Sc. Examination. Engineering and Drawing, 4th, 5th, and 6th November 1891, at 11 A.M. and 2 P.M. each day; and 4th, 5th, and 6th April 1892, at 11 A.M. and 2 P.M. each day. Dynamics, 3rd November 1891, and 9th April 1892, at 1 P.M. each day. Names to be given in, certificates shown, and fees paid on or before 23rd October 1891, and 14th March 1892 respectively.

Examinations for D.Sc. Candidates must present their Theses and pay their fees on or before 30th April in the year in which they propose to graduate. The Examinations will take place after the Theses have been approved.

PUBLIC HEALTH.

First B.Sc. Examination, 20th July 1891 and 21st March 1892; Laboratory work at 11 A.M., and Physics, at 2 P.M. each day; Practical Work in the Laboratory, 21st July 1891, and

three succeeding days, and 22nd March 1892, and three succeeding days. Names to be given in, certificates shown, and fees paid on or before 13th July and 14th March respectively.

Second B.Sc. Examination, 6th, 7th, 8th, and 9th July 1891. Medicine, 6th July, 11 to 1. Sanitary Law and Vital Statistics, 6th July, 2 to 4. Practical Sanitation, 7th July 11 to 1 and 2 to 4. Oral Examination, 8th and 9th July. Names to be given in, certificates shown, and fees paid on or before 26th June.

D.Sc. Candidates are required to lodge their Theses and proof of their eligibility with the Convener of the Science Degrees Committee at the Office of the Faculty of Medicine, University New Buildings, and to pay the fees to the *Clerk of the University*, on or before 30th April of the year in which they propose to graduate.

AGRICULTURE.

First B.Sc. Examination. Agriculture, 16th October 1891, 9 to 12, and 28th March 1892, 9 to 12. Chemistry, 20th July 1891, and 21st March 1892, 11 to 1. Practical Chemistry, 22nd July and 23rd March and following days. Botany, 20th July 1891, and 21st March 1892, 2 to 4. Natural History, 21st July 1891, and 22nd March 1892, 11 to 1. Geology, 21st July 1891, and 22nd March 1892, 2 to 4. Economic Science, 16th October 1891, and 28th March 1892, 1 to 3 each day.

Second B.Sc. Examination. Agriculture, 16th October 1891, 9 to 12, and 28th March 1892, 9 to 12. Chemistry, 15th October 1891, 9 to 11, and 29th March 1892, 10 to 12. Veterinary Hygiene, 15th October 1891, and 29th March 1892, 1 to 3 each day. Engineering, 9th October 1891, 10 to 1, and 28th March 1892, 1 to 4.

Names to be given in, Certificates shown, and Fees paid on or before 5th October 1891 and 14th March 1892.

Examination Papers for Degrees in Science.

SECTIONS C, D, E, F.

PRELIMINARY EXAMINATION.

[*For Questions in the Preliminary Subjects, see under Preliminary Examinations for Degrees in Medicine.*]

FIRST EXAMINATION FOR B.Sc.

[*For Questions in Mathematics and Natural Philosophy for Degrees in Sections C and D, see under Examination in Arts; and for Questions in Chemistry, Botany, and Zoology for Degrees in Sections C and F, and in Chemistry for Degrees in Section D, see under First Professional Examination for Degrees in Medicine.*]

SECTION E.—Department of Public Health.

LABORATORY WORK.

21st July 1890.—11 *to* 1 *o'clock.*

1. Preliminary examination shows that a sample of water contains Calcium, Magnesium, and Sodium Salts, Sulphates, Chlorides, and Carbonates. How would you conduct a quantitative analysis? How would you state the results?

2. How would you examine the air of a room for (*a*) Humidity; (*b*) Carbonic Acid; (*c*) Micro-organisms?

3. How would you determine the quantity of alcohol and of sugar in a specimen of beer?

23rd March 1891.—11 *to* 1 *o'clock.*

1. State the evidence for the opinion that Nitrification in the soil is caused by a micro-organism.

2. What are the effects of filtration on water? Describe the filtering materials most in use and the effects of filtering through each of them. What are the conditions of most successful filtration?

3. How would you examine the soil, subsoil, and ground air of a building site? What conclusions can be drawn from the results of such an examination?

PRACTICAL WORK.

The following are examples of what were given at this Examination:—

March 1891.

(*This part of the Examination lasts four days.*)

1. Quantitative analysis of sample of butter.
2. Quantitative determination of dissolved oxygen in water.
3. Bacteriological examination of specimen of soil.

PHYSICS.

21*st July* 1890.—2 *to* 4 *o'clock.*

(*Three questions at most out of each group to be answered.*)

A.

1. Explain the term "centrifugal force" with reference to Newton's laws of motion.
2. Define density and specific gravity, and explain how it is proved that they are proportional.
3. Describe any method of determining the compressibility of water, and point out the sources of error to which the method is liable.
4. Give instances of the surface tension of liquids. How is it proved that the form of raindrops is spherical?
5. What are respectively the causes of waves and of ripples on the surface of the sea?
6. Describe any one method of finding the mean density of the earth.

B.

1. Draw a diagram to show how an ordinary compound microscope gives a magnified image of an object.
2. Describe the phenomena of phosphorescence and fluorescence, and explain in what respects they illustrate general principles in the theory of energy.
3. How are the dark lines in the solar spectrum accounted for? What are the conditions as to temperature, &c., which determine whether a line in the spectrum shall appear bright or dark?
4. What is meant by the "equation of time"? Show from general considerations that it vanishes four times a year.
5. What is the cause of "aberration"? Mention other phenomena due to a similar cause.
6. Explain the theory of the syphon.

C.

1. Explain the formation of dew, and give reasons why (1) absence of wind, (2) a clear sky, are favourable to its formation.
2. Explain why, in a sudden frost, shallow water freezes more quickly than deep water.
3. Distinguish between a sound and a musical note. Describe a graphic method of measuring the pitch of a note.
4. Explain what is meant by the electrostatic capacity of a conductor, and how to compare the capacities of two conductors.
5. Describe any form of secondary battery or accumulator.
6. Explain the transformation of energy which takes place in the working of a magneto-electrical machine.

23rd March 1891.—2 *to* 4 *o'clock.*

(*Nine questions at most to be answered.*)

1. Define the units of work or energy employed respectively for practical and scientific purposes.
2. Why is gravity less at the equator than at any other place on the earth's surface?
3. Explain how the action of the moon causes a tide every twelve hours.
4. Why are dust-nuclei necessary for the formation of mists or fogs?
5. Draw a diagram to show how a simple lens is used as a magnifier.
6. Explain the source of the coloured rings seen when a cloud passes over the moon. How do these indicate approaching rain?
7. What was the cause of the error in Newton's estimation of the velocity of sound in air?
8. Draw a diagram of the human vocal organs, and explain how the musical notes are produced.
9. Explain how Rumford and Davy independently established the immateriality of heat. What is meant by Joule's equivalent?
10. Describe the radiometer, and explain its use.
11. Account for the large quantity of electricity which can be stored up in a Leyden jar. Define in relation to it the terms quantity, capacity, and specific inductive capacity.
12. Describe the construction and action of the telephone.

Section F.—Department of Agriculture.

AGRICULTURE.

16th October 1890.—9 *to* 11 *o'clock.*

1. (*a*) What relation does the surface soil of a district bear to the geological formation on which it rests? (*b*) What have been the chief agencies in the accumulation of surface soils?

2. In surveying a new and unknown district for the purpose of fixing the rental of a farm or an estate, on what principle would you be guided in forming a correct opinion as to value?

3. Describe the operation of clay burning. On what class of soils is the practice generally adopted? What are the agricultural advantages supposed to be derived by the application to the land of a dressing of burnt clay?

4. Describe briefly the construction of a corn-drill and a broad-cast sowing machine. Which performs the best work, and is most economical in practice?

5. Name and describe six of the best cultivated grasses. On what soils, and under what climatic conditions do they flourish?

6. Name and describe some of the more noxious plants which infest old pastures on the undrained soils of the glacial drift, of the mountain limestone, of the silurian and the new red sandstone formations. What are the best known means of eradicating them?

31*st March* 1891.—10 *to* 12 *o'clock.*

1. Describe the geological indications that would guide you in selecting a farm for your occupation. What are the general indications and leading characteristics of (1) a moderately fertile, and (2) a barren soil? What means would you use to improve the fertility of the latter, which we shall suppose is a weak sand, situated in a district where the average rainfall is only 24 inches per annum?

2. What means do you adopt in arriving at a decision as to the depth and distance apart to place drains in a waterlogged soil? From what acreage of land will a 4-inch main carry off one-tenth of an inch of rainfall in 24 hours with a fall of 10 feet per mile? What number of 12-inch pipes, of the various diameters of 2″, 3″, and 6″ respectively, can be carried on an ordinary farm cart drawn by one horse?

3. How many acres of grass can be cut by an ordinary mowing machine drawn by a pair of active horses working 10 hours a day, the cutting knives being kept in good order? How many acres of a standing crop of wheat or barley can be cut by a Hornsby's self-binder, working 10 hours per day, a relay of horses being used?

4. Give a comparative estimate of the cost per horse-power of the work done by the following mechanical powers :—

1. Steam.
2. Water.
3. Wind.
4. Horses.

5. (*a*) What is the most profitable rotation of cropping on a strong land tillage farm in the Lothians? (*b*) What is the best rotation of cropping on a light land farm in a southern county, with a view to obtain the best possible revenue from sheep? Name the green crops best suited to the purpose, and their succession in order to meet the wants of the different seasons.

6. Describe shortly the best system of securing the hay crop, whether

artificial or natural grass. Name and shortly describe the machines and implements generally used in saving the crop. What is the cost per acre of "getting" a crop of mixed seeds (two tons per acre), including stacking and thatching—the wages of an able-bodied labourer being 3s. per day.

7. Describe the best system of laying down strong land to permanent pasture—(*a.*) Preparation of the land. (*b.*) Quantity and quality of manures employed. (*c.*) Quantity and quality of seed (naming the varieties and quantity per acre of each). (*d.*) Method of sowing. (*e.*) Subsequent management during the first four years.

8. What is the best system of storing farmyard manure? In what state should farmyard manure be applied to the land in order to produce the most beneficial results? To what crops is its application more particularly adapted? In what quantities should it be applied to the different crops? For what period will it produce a beneficial effect on the development of the crops?

9. What is the best floor for cow and cattle sheds? What are the general advantages of covered yards as compared with open yards? How do you estimate the advantage per head of stock? What is the best system of drainage for byres, cattle sheds, and stables? What is the best provision to make to ensure ventilation in all buildings erected for the shelter of the live stock of the farm?

GEOLOGY.

22nd July 1890.—2 *to* 4 *o'clock.*

1. Explain why the soils and subsoils over boulder-clay are usually much thinner than those over alluvial accumulations.
2. How does capillary action affect the fertility of soils?
3. Describe the action of worms in the formation of soil.
4. Describe several kinds of sandstone, and the character of the soil formed over each.
5. Give some account of natural springs.
6. Describe the petrological characters of Basalt, Greywacké, Oolitic Limestone, Calcareous Tufa or Sinter, Gneiss, and Mica-schist.
7. Draw a section to illustrate the following structures:—Anticline, Syncline, Fault, Dyke, Neck, and Unconformity.

24th March 1891.—2 *to* 4 *o'clock.*

1. Describe the character of the *soil* yielded by Siliceous Sandstone, Limestone, Basalt, and Granite respectively.
2. How does *capillary action* influence the fertility of soils?
3. Give some account of the *mineral phosphates* which are used as fertilizers.
4. Draw a section to illustrate the following geological structures:—*Anticline*, *Syncline*, *Fault*, *Dyke*, and *Unconformity*.

5. Describe the petrological characters of *Gneiss*, *Greywacké*, *Porphyrite*, *Clay-slate*, and *Marble*.
6. Give some account of Natural Springs.

ECONOMICS.

Friday, 17*th October* 1890.—1 *to* 3 *o'clock.*

1. Explain the principle of division of labour, and show how it bears upon the question of large and small holdings.
2. State the theory of economic rent, and notice some of the practical difficulties in connection with money rents and produce rents.
3. Examine the effects on the landed interests of the adoption of free trade by the United Kingdom.
4. Distinguish, with illustrations, between general prices and relative prices.
5. What are the principal objections to State Socialism?
6. On what principles should compensation for improvements be given?

31*st March* 1891.—1 *to* 3 *o'clock.*

1. What are the principal characteristics of Wealth?
2. What are the chief causes of variation in the efficiency of labour? Give examples from agriculture.
3. What are the economic advantages of a simple system of transfer of land? How far does the question of large and small estates turn upon simplicity of transfer?
4. Give arguments for and against compulsory compensation for agricultural improvements. What conditions and methods should be adopted?
5. Examine the effects of the abolition of the Corn Laws upon rent.
6. What are the characteristics of a good standard of value? Compare wheat and gold for this purpose.
7. If one industry might gain by a protective duty, why should not not all gain by general protective duties?
8. What would be the effects of giving a bounty on the production o wheat in the United Kingdom?

SECOND EXAMINATION FOR B.Sc.

SECTION C.—Department of Physical and Natural Science.

(*a*) THE MATHEMATICAL SCIENCES.

[*For questions in the Mathematical Sciences, see under Examinations for Degrees in Arts with Honours in Mathematics.*]

(*b*) THE PHYSICAL EXPERIMENTAL SCIENCES.

EXPERIMENTAL PHYSICS.

Saturday, 11th April 1891.

Describe fully a method of experimentally determining each of any *six* of the following:—

1. The critical temperature, volume, and pressure of carbonic acid.
2. The degree of exhaustion of a "vacuum" tube.
3. The temperature of water in the "spheroidal" state.
4. The constant of gravitation.
5. The speed of light in air.
6. The reduction of the indications of a constant-pressure air-thermometer to absolute temperature.
7. The resistance of air to a round-shot, in terms of the speed.
8. The length of the mean free path in air at 0° C. and 1 atm.
9. The capacity of an electric condenser.
10. The thermo-electric position of a metal.

CHEMISTRY.

21st July 1890.—11 *to* 1 *o'clock.*

1. Describe fully and explain what takes place in each of the following cases:—
   - (*a.*) Oxychloride of Bismuth is shaken up with water and Hydrochloric Acid.
   - (*b.*) Carbonic Acid Gas is passed into aqueous solution of Potassium Sulphide.
   - (*c.*) Sulphuretted Hydrogen Gas is passed into aqueous solution of Potassium Carbonate.
2. How are the following substances prepared in a state of purity?—
   - (*a.*) Potassium Thiosulphate.
   - (*b.*) Sodium Thiantimoniate.
   - (*c.*) Potassium Cobalticyanide.
   - (*d.*) Sodium Nitrite.
   - (*e.*) Ammonium Fluoride.
3. State Dulong and Petit's law. What elements are exceptional?

2 to 4 o'clock.

4. State the constitution of any four of the following, giving the evidence in each case:—Acetal, Aldol, Acetacetic Ether, Tyrosine, Indol, Oxindol, Mandelic Acid, Cinnamic Acid.

5. How is Phenylhydrazine prepared? What is its action on (*a*) aldehyde, (*b*) acetone, (*c*) glucose?

6. What are the theoretically possible substances having the formula $C_5H_{12}O$? Which of these have been obtained? Give modes of preparation and properties where you know them.

23rd March 1891.—11 *to* 1 *o'clock.*

1. What is Dissociation? How can the Dissociation of water vapour be proved?

2. What is meant by the term "Colloid"? Give three cases of aqueous solution of a Colloid substance, describing in each case the mode of preparation and the character of the solution.

3. What are Basic Salts? Illustrate their character and mode of formation by reference to basic salts of Lead, Mercury, Copper, and Iron.

2 to 4 o'clock.

4. How can Benzoic Aldehyde be prepared from Toluene? What is the action of each of the following substances on Benzoic Aldehyde?—*a*. Hydrocyanic acid. *b*. Strong nitric acid. *c*. Pentachloride of phosphorus. *d*. Ammonia.

5. Give the constitution, with the evidence for it, of any four of the following substances:—Amarin, Cumarin, Benzoin, Cinnamic acid, Leucin, Isethionic acid, Cholin, Neurin.

6. What substances are known having the same composition as Amylic alcohol? How many isomers are theoretically possible?

(*c*) THE NATURAL SCIENCES.

ZOOLOGY.

Tuesday, 22nd July 1890.—11 *to* 1 *o'clock.*

1. Give an account of the Urodela, referring especially to interesting facts relating to their distribution, life history, and development.

2. Give a short account of the development of the brain and sense organs in one of the lower vertebrata, and point out how the sense organs and their accessory structures differ in the following groups, viz.:—Cyclostomi, Teleostei, Chelonia, Carinatae, Monotremata, and Rodentia.

3. What do you understand by continuous and discontinuous distribution? Give examples, and state how discontinuous distribution is likely to influence the species.

4. What do you understand by sexual selection? Give examples, and point out some of the objections to the theory as stated by Mr Darwin.
5. Contrast the skull of Thylocimis with that of Canis.

24th March 1891.—11 *to* 1.30 *o'clock.*

(*Answer any two questions in* A *and any two in* B.)

A.

1. Give a classification of the Spongidæ, stating the structural characters on which it is based. Give a short account of the life-history of a Calcareous Sponge.
2. Discuss fully the zoological affinities and position of *Peripatus* or *Balanoglossus*.
3. Give examples of mimicry in butterflies. How do you account for the production of mimetic species and of warning colours?

B.

1. Contrast the skeleton of the fore-limb in *Acanthias*, *Salmo*, and *Protopterus*. State what you know as to the origin of the limbs of Vertebrates.
2. What structures are developed in connection with the fore-brain of the Vertebrate embryo, and how do they arise? Describe the nature of the fore-brain roof in the various divisions of the Ichthyopsida. Where does a true cerebral cortex first appear?
3. Give a short account of the Crocodilia, referring to their characters, affinities, classification, and distribution in space and time.
4. Describe the morphological nature of the Vertebrate lungs. Where are the air-sacs of birds fore-shadowed? What is meant by an eparterial bronchus, where does it attain its highest development, and what becomes of it in Mammals?

BOTANY.

21st July 1890.—2 *to* 4 *o'clock.*

(*Four questions only to be answered.*)

Illustrate the answers by drawings whenever possible.

1. Describe the inflorescence and flower in *Avena*. Give a morphological explanation of the parts you describe.
2. Describe the structure and position of the sporangia in typical members of Pteridophyta.
3. Give an account of the phenomena of Transpiration. Point out how these may be affected by conditions (*a*) inside, and (*b*) outside the plant.
4. Give an account of the features characteristic of any insular flora with which you are acquainted. What explanation can you give of the features you describe?

5. Discuss the effect upon the progress of Botany of the discoveries associated with the names of Brown and Hofmeister.

6. Illustrate by a series of examples the phenomena of Parasitism and Saprophytism, and show the effects these conditions produce in the organisms concerned. What do you know of the conditions underlying the state of predisposition of a host to the attack of a parasite?

PRACTICAL BOTANY.

1. Name the plants A and B by the aid of the Flora handed to you.

2. Mount preparations of specimen C to illustrate its structure. Sketch and describe your preparations. Leave your preparations for inspection.

3. Describe specimens D, E, F, and refer them to their natural orders. Give your reasons for assigning them to the orders you select.

4. Briefly describe and identify, if possible, specimens G, H, I, K, L, M, N, O.

A. *Eleocharis palustris.* B. *Jasione montana.* C. Stem of *Nicotiana tabacum.* D. *Callistemon.* E. *Celsia.* F. *Pimelia.* G. *Rhizomorpha subcorticalis.* H. Embryo germinating of *Macrozamia.* I. *Exoascus Pruni* causing bladder-plum. K. Incrusted *Chara.* L. *Ulodendron.* M. Section of leaf of *Pilularia.* N. Epidermis with glands of *Nepenthes.* O. Sporocarps of *Marchantia.*

23rd March 1891.—2 *to* 4 *o'clock.*

(*Four questions only to be answered.*)

Illustrate your answers by drawings whenever possible.

1. Give an account of the characters of the Class Lycopodineæ, and point out its relationships to others of the Pteridophyta and to those of the Spermaphyta.

2. Describe the development of the sporangium of a Leptosporangiate plant, and also of a Eusporangiate plant.

3. Write an account of the botanical work of Linnæus, and show what has been its effect upon the progress of botany.

4. What effects has light upon the growth of a green plant? How can you explain the features exhibited by a shoot grown in darkness?

5. What are the characteristic morphological features of plants inhabiting (*a*) a dry tropical region, (*b*) a moist tropical region, (*c*) an alpine region? Explain their significance.

6. Write an account of the life-history of one of the following:—*Podosphæra pannosa*, *Batrachospermum moniliforme*, *Pythium De Baryanum.*

PRACTICAL BOTANY.

25th March 1891.—10 *to* 2 *o'clock.*

1. Make a series of sections illustrating the structure of Specimen A. Mount and leave your preparations for inspection. Sketch them and

give a list of explanatory references. From your examination of the specimen state what you would consider to be the affinity of the plant.

A. *Veronica cupressoides.*

25th March 1891.—3 *to* 6 *o'clock.*

2. Describe Specimen B.

3. Describe and refer to its natural order Specimen C. Give your reasons.

4. Refer to their natural orders Specimens D and E.

5. Identify and shortly describe Specimens F, G, H, I, K, L, M, N, O.

B. *Skimmia japonica;* C. *Leucopogon lancifolium;* D. *Pilea herniariæfolia;* E. *Cyperus atternifolius;* F. Dehiscing fruit of *Hedychium;* G. Flower-twig of *Eucalyptus globulus;* H. Male flower of *Cycas revoluta;* I. *Æcidium abietinum* on spruce cone; K. *Pothocites grantoni;* L. Fruit of *Cordaites;* M. Antheridiophore of *Marchantia polymorpha;* N. *Coleochæte scutata;* O. Sporophylls of *Equisetum limosum.*

PHYSIOLOGY.

21st July 1890.—2 *to* 4 *o'clock.*

(*Time, two hours.*)

1. Name the compounds in which sulphur and phosphorus enter the organism, the compounds in which they each occur in the blood and tissues, and the compounds in which each of them is excreted

2. Give an account of our present knowledge regarding the activities of the cells of mucous glands, peptic glands, pancreas, liver, and kidney.

3. Give an account of the structure of the organ of Corti, of the ear of a mammal, a bird, and an amphibian; of the manner in which the sound waves reach it; and of Helmholtz's theory of sound sensation, and the manner in which the cochlea contributes to its production.

23rd March 1891.—11 *to* 1 *o'clock.*

1. (*a.*) Describe the minute structure and attachments of the True Vocal Cords and Cricothyroid Membrane in man, and the manner in which their tension and relative positions are affected by the several laryngeal muscles.

(*b.*) Upon what causes do the pitch, loudness, and quality of vocal tones depend?

(*c.*) What are the conditions of the vocal resonators during the production of the several vowel soun d?

2. Name all the substances directly or indirectly derived from such a proteid as Albumin in the alimentary canal, in the blood-glands, in the tissues generally, and in the liver.

3. Describe the terminations of nerves in striped muscle fibres, in Pacini's corpuscles, Meissner's corpuscles, taste bulbs, and Ampullæ of semicircular canals.

GEOLOGY, INCLUDING MINERALOGY AND PALÆONTOLOGY.

22nd July 1890.—2 *to* 4 *o'clock.*

(*Not more than two questions under each division to be attempted.*)

A.

1. Describe the structure and mode of formation of *Dunes.*
2. How may we estimate the total quantity of sediment removed from the land by a river within any given time?
3. What seem to have been the general effects of the *earth's contraction* upon the surface?

B.

4. Describe the following crystalline forms, and give examples of minerals which commonly assume those forms :—*Rhombohedron*, *Rhombic*, *Dodecahedron*, *Oblique Pyramid.*
5. Give some account of the *Amphiboles* and *Pyroxenes.* What part do they play as rock-formers?
6. Give the macroscopic and microscopic characters and the geological habitus of *Granite*, *Gneiss*, *Picrite*, *Trachyte*, and *Chiastolite-slate.*

C.

7. What evidence has been adduced to prove that the *crystalline schists* are *metamorphic rocks?*
8. State what you know as to the origin of the *ores and other minerals* which occur in *lodes.*
9. Define the terms *monocline*, *isoclinal*, *overlap*, *reversed fault*, *drusy cavity*, *concretion*, *secretion*, *intrusive sheet*, and *dyke.*

D.

10. Describe the structure of a *Rugose Coral*, and mention some characteristic Carboniferous forms.
11. Construct a table of the *Mesozoic Systems*, and place opposite each division the names of some *characteristic fossils.*
12. Describe the *physical conditions* which attended the accumulation of the *Old Red Sandstone* of Scotland.

24th March 1891.—2 *to* 4 *o'clock.*

1. Give some account of Ramsay's theory of the origin of *Rock basins.*
2. What are the distinguishing features of *Rain-wash?*
3. How has *Kaolin* or China-clay been formed?
4. Give the mineralogical characters of *Augite*, *Schorl*, *Muscovite*, *Orthoclase*, *Ilmenite*, *Olivine*, and *Calcite.*

5. Give the Petrological characters of *Marble*, *Clay-slate*, *Mica-schist*, *Trachyte*, *Gabbro*, *Pitchstone*, and *Travertine*.

6. Describe some examples of *Local* or *Contact Metamorphism*.

7. What is the succession of physical changes indicated by a well-marked *Unconformity?*

8. Draw *one* section to illustrate the following structures :—*Syncline*, *Anticline*, *Unconformity*, *Overlap*, *Outlier*, *Dyke*, *Fault*.

9. What is a *monoclinal fold?*

10. Give some account of the physical conditions under which the *Old Red Sandstone* of Scotland was accumulated.

11. Give the geological range of *Graptolites*, *Trilobites*, *Nautilus*, *Belemnites*, *Deinosaurs*, *Labyrinthodonts*, *Hippurites*, *Nummulites*.

12. What are the distinguishing characters of *Archæopteryx*, *Pterodactylus*, and *Odontopteryx?*

Section D.—Department of Engineering.

DYNAMICS.

Tuesday, 4th November 1890.—1 *to* 4 *o'clock.*

1. A block slides between vertical guides, with constant friction amounting to one-fourth of its weight. If it be projected upwards with a speed of 30 feet per second, how high will it rise and with what speed will it return to its initial position?

2. A circular board, loaded excentrically, rests on a rough inclined plane. Show how to find the positions of equilibrium, stable and unstable. What determines the greatest admissible inclination of the plane?

3. Find the resultant of two simple harmonic motions, of the same period, in directions at right angles to one another. Trace fully the consequences of a slight difference between the periods.

4. Find the attraction exerted by a homogeneous cylinder, whose length and diameter are equal, on a particle at the centre of one end. Compare it with the attraction of the inscribed sphere. Also compare the attractions exerted by the nearer, and the further, hemispheres on the same particle.

5. Find the moment of inertia of a homogeneous sphere about a diameter. Hence find that of a bomb-shell about a tangent line to its inner surface.

6. Work out fully the motion of a projectile fired vertically at 500 feet per second, the resistance of the air producing an acceleration measured by $-\frac{\text{square of speed}}{280 \text{ feet}}$. Compare the times of ascent and of descent.

7. Find the nature of the strain of any small part of a body, in which

all points are displaced in parallel directions, each to an amount porportional to its distance from a given line.

8 Find the centre of gravity of a wedge-shaped portion cut from a uniform cylinder by two planes which intersect in a line perpendicular to the axis.

9. Form the equations of motion of a complex pendulum, where masses 1 and 2 are attached to the string at 3 and 5 feet, respectively, from the point of suspension. Integrate them fully when the disturbance is small and in one plane.

10. Form the equations for small transverse disturbances (in one plane) of a number of equal masses attached at equal intervals to a long, light cord, tightly stretched.

Show how to deduce from them the equation of vibration of a uniform, stretched cord.

11. Form the equations of equilibrium of a fluid, under the action of any system of forces. As an example, find the pressure at any point of a homogeneous liquid, left entirely to the mutual gravitation of its parts.

12. Investigate the speed of propagation of a long wave in a uniform canal.

Saturday, 11th April 1891.—1 *to* 4 *o'clock.*

1. Distinguish between centre of inertia and centre of gravity, and show that a given quantity of matter may be distributed in an infinite number of ways, over a given closed surface, so as to have a centre of gravity.

2. A slab, attached by an elastic cord to a point in an inclined plane, is just on the point of moving. Find the locus on which it must be situated.

3. Define a simple shear, and show how it can be most naturally resolved into extensions and compressions. Find the resultant of any two shears whatever.

4. Supposing the coefficient of friction to be 0·1, how far will a train run on a level, if started at 20 miles an hour? If the whole mass be 100 tons, how many pounds of ice-cold water could be raised to boiling point by the heat developed?

5. Find the tension of a uniform chain which is moving uniformly in a definite (curved) path. How if the path be not curved? Give it in pounds' weight when the chain weighs 5 lbs. per yard, and is running at 100 feet per second.

6. Calculate, approximately, in pounds' weight per square foot of a diametral plane, the attraction of two halves of the earth for one another across it.

7. Define Young's modulus, and find its value in terms of the rigidity, and the resistance to compression.

8. Show that in torsion of a circular cylinder of homogeneous matter, the coefficient of rigidity alone is involved;—and find how the torsion

produced by a given couple depends on this and upon the radius of the cylinder.

9. What conclusions can be drawn from the fact that, with the majority of bodies, the duration of impact is less as the relative speed is greater?

10. Define the moment of inertia of a body about any given axis. A balance-spring (whose mass is negligible) oscillates in 1^s when a ring of 1 lb., and of 6 inches radius, is attached symmetrically to its axis. In what time will it oscillate if a diagonal of a uniform cube of 4 inches side and 10 lbs. weight be rigidly attached to its axis?

11. What average force will bring to rest, in 0^s·001, an ounce bullet moving at 1500 feet per second; and through what space must it be exerted?

12. Find how the discharge of water depends on (1) head, (2) length of pipe, (3) section of pipe. State the peculiarities which come in when the section is very small.

13. A cube, of which one edge is loaded, is placed in a vessel containing two liquids, one of greater, the other of less, density than the cube as a whole. Find its position of equilibrium, and the force tending to restore it to that position after a small, vertical displacement.

14. Find the form in which a chain will hang, under gravity, if its mass per unit of length is everywhere as the secant of its inclination to the horizon.

15. Calculate the law of decrease of density with height in the air, if the temperature were to fall off 1° C. in each 100 feet of ascent.

ENGINEERING.

Wednesday, 5th November 1890.—11 *to* 1 *o'clock.*

1. A base line having been set out on a level plane with a theodolite (the ranging-poles being equidistant), is discovered to be an arc of a circle, and not a straight line. What was wrong with the instrument?

2. Water, under a head of 100 feet, is to be carried by a clean iron pipe, 2 feet 6 inches diameter, and a mile and a half long. What should be the thickness of the pipe, and what will the discharge be per second?

3. Explain the terms "heading spiral," and "coursing spiral," as applied to the skew arch. Describe the method of working the stones for such an arch.

4. How much cant should there be on an ordinary railway curve, of 50 chains radius? Give the calculations on which you base your answer.

5. On a lattice girder, 200 feet span, there is a dead load of 2 tons per foot run, and a live load of 1½ tons per foot run. The bars of the triangulation, which is double, cross each other at right angles, and there are nine bays. The dead load on the top beam is ·75 ton per

foot run. Calculate, for every possible position of the live load, the maximum stresses on the diagonal members at the centre, and at a point 50 feet from either end.

Answers should, as far as possible, be illustrated by figured sketches or diagrams.

2 to 4 o'clock.

1. From a given tangent, it is required to lay out a courve which shall pass through a given point. Show how this can be done.

2. The ram of a pile-driver weighs one ton, the drop is 8 feet, and the pile on which it falls sinks 6 inches at each blow. Calculate the frictional resistance of the ground into which the pile is being driven.

3. What are change wheels? Explain their use in the lathe, and show how you would arrange a set to cut ten threads to the inch; supposing the leading screw is of one inch pitch.

4. Construct a line diagram of an iron roof truss, suitable for a shed 35 feet wide. Give details on a scale of one-third, showing a foot of the truss resting upon the head of a C.I. column. Let the principal rafter be a T-iron $3\frac{1}{2}'' \times 5'' \times \frac{5}{8}''$, and the tie-rod $1\frac{1}{2}''$ diameter, capable of being tightened up.

5. Steam is cut off in the high pressure cylinder of a compound tandem engine, at one-third of the stroke. The areas of the pistons are as 1 to 3, and the diameter of the smaller cylinder is 20 inches. Given: initial steam pressure, 85 lbs. per square inch above atmospheric; back pressure in larger cylinder 3 lbs. per square inch; and the speed of each piston 300 feet per minute. Calculate the horse power. (Hyp. log. 3 = 1·0986.)

Answers should, as far as possible, be illustrated by figured sketches or diagrams.

Thursday, 6th November 1890.—*11 to 1 o'clock.*

1. Describe fully the calculations that must be made, and the operations undertaken, to set out a railway curve (1) by the method of offsets, and (2) by angles.

2. Give a detailed description of the steps to be taken, and make the calculations necessary, to determine the diameter of cylinder length of stroke of a steam-engine which will give out 10 brake horse-power; steam pressure, 40 lbs. per square inch; cut off, a quarter; revolutions, 90 per minute. Hyh. Log. of 4 = 1·386.

3. Write a full specification for Portland cement concrete, such as would be employed in forming a retaining wall, and what alterations or additions would be made on it if the concrete was to be deposited under water.

4. Give a short description of any process for preserving timber.

Timber of same section can be had to form a beam for a wooden bridge either in two equal lengths, which would require one scarf, or in

three equal lengths, which would necessitate two scarfs. State which you would prefer to use, and give your reasons. Show by a sketch a joining suitable, clearly distinguish the upper and under sides of beam, and the direction of plane of scarf.

5. Make a sketch of a system of piling to protect the banks of a river —show front elevation, cross section, and plan. River is 50 feet broad, and in ordinary weather 4 feet deep, but is subject to sudden floods of 7 feet; bed of river consists of sand and gravel.

Answers should, as far as possible, be illustrated by sketches or diagrams.

2 to 4 o'clock.

1. A pit crane has a post 20 feet in height, the jib is 40 feet long, and when at an angle of 45 degrees a weight of ten tons is lifted; calculate the bending moments at foot of crane post at surface of ground. Cos of $45° = \frac{1}{\sqrt{2}} = .707$

Draw the stress diagram.

2. A balcony, 6 feet long and 4 feet broad, has to be supported by 2 malleable iron beams fixed into a wall at one end. The section of the beams is rectangular, 1 inch thick. The balcony has to bear a load of 80 lbs. per square foot. Find the depth of the beams at the wall, choose any modulus and factor of safety; also show how the depth should vary for uniform strength.

3. An iron boiler is 5 feet in diameter, 10 feet long, and carries 100 lbs. pressure, calculate the greatest tensile stress on the plates, find the thickness of plates, allowing for single rivet joint, and factor of safety, or by using the coefficient of strength of 4000 lbs. per square inch.

4. Find the horizontal thrust on the back of a quay or breast wall with vertical back. Height, 20 feet; weight of cubic foot of earth, 100 lbs.; angle of repose, 30°; neglect the friction between the earth and the wall.

$$\tan 30° = \frac{1}{\sqrt{3}} = .577$$

5. What kind of timber would you recommend to be used for the following purposes?—

(1.) For the main piles of a pier in an estuary.
(2.) The piling on banks of a river.
(3.) For rafters of the roof of a house.
(4.) For hammer shafts.

Answers should, as far as possible, be illustrated by sketches or diagrams.

DRAWING.

Friday, 7th November 1890.—11 *to* 1 *o'clock.*

I.

1. A triangle has the base AB, and the perpendicular CE 2″ long, and the angle ACB 60°. Divide it into five equal parts by straight lines drawn from D, a point in CE distant half an inch from C.

2. BD is a line $1\frac{3}{4}$″ long. Draw AB, DC, perpendicular to BD, and each 2″ long, the points A and C being on opposite sides of BD. Consider these lines as three bars jointed at B and D, and free to turn in the plane of the paper about the points A and C as centres. Trace the locus of the centre point of BD.

3. If a line $\frac{1}{2}$″ long represents the area of an equilateral triangle of 2″ side, obtain (without calculation of any kind) a length which will represent the area of an octagon of $1\frac{1}{4}$″ side.

II.

1. In a plane inclined at 40°, place a line 3″ long inclined at 25°, and through this line draw a plane inclined at 70°.

2. Draw the plan of an octahedron of 2″ edge, one edge being inclined at 30°, and another, on the same face, at 20°.

3. Two equal right cones, height $1\frac{3}{4}$″, diameter of base $2\frac{1}{2}$″, have a common vertex. One cone rolls upon the other, which stands upon the horizontal plane. Draw the plan of the curve described in one revolution by a point on the base of the rolling cone.

Questions in each of the Sections I. and II must be attempted.
Inking in is unnecessary.

2 *to* 5 *o'clock.*

From one or other of the figured sketches supplied, make the drawings indicated.

Sketches—(1) A timber braced bridge.
(2) A back pressure stop valve.

Inking in is unnecessary.

Monday, 6th April 1891.—11 *to* 1 *o'clock.*

1. What is meant by making a levelling instrument traverse? How would you test it? And if found out of adjustment, how would you correct it?

Rule a level-book and insert the following staff readings:—(6.04) on B.M. 20.6 above ordnance datum. (3.2)—(4.5); level moved (6.7)—(10.4)—(3.5); level moved (4.25)—(7.25)—(2.00). What is the height of last point above datum?

2. Explain what is meant by the variation of the compass, and

describe any method of finding approximately the true north without the aid of an angular instrument.

3. A non-condensing engine, having cylinder 10″ in diameter and 2 feet stroke, is supplied with steam at 90 lbs. boiler pressure by guage, cut off ½. The length of connecting rod is twice the stroke—calculate the maximum thrust in the connecting rod, and the diameter at the middle for steel with factor of safety of 8. Also calculate maximum torsional moment on crank shaft, and give size for wrought iron, choose any factor of safety for crank shaft.

4. What is the difference between rolling friction and sliding friction? A coal waggon weighs 16 tons gross on four wheels 30 inches diameter, and axle journals 3 inches diameter, co-efficient of axle friction at 40 miles per hour=0.15, and co-efficient of rolling friction =.02. Calculate the resistance per ton.

5. A wrought-iron lattice girder, 100 feet span and 6 feet high, in 10 bays separated by vertical bars with two diagonals in each bay, is supported at the ends. Dead load ¼ ton per foot run, and rolling load 2 tons, carried on lower boom. Calculate area of flanges at the middle, and the maximum tension on the diagonals (supposing both to take equal amount) at the bay nearest the abutments. What effect has the rolling load on the diagonals?

Answers should, as far as possible, be illustrated by sketches or diagrams.

Monday, 6th April 1891.—2 *to* 4 *o'clock.*

1. How would you determine the position of a station afloat while making a marine survey for engineering purposes? Explain method of plotting, and why care must be observed in selecting the stations ashore.

2. Make a sketch and describe a method of supporting the roof of a tunnel before the lining is built in. Show clearly how the work is carried forward and the supports withdrawn.

3. Where stone is expensive it is proposed to use for steps and lintels Portland cement concrete blocks, composed of 1 of cement to 4 of sand, having a tensile strength ¼ of neat cement. The steps have a rise of 7 inches and tread of 10 inches, and are built into the wall, overhanging 3 feet. The lintels are 12 inches deep, and 10 inches broad, and 6 feet long, with 4 feet between supports. Treating the step as a cantilever, calculate the breaking load applied at the end, and the breaking distributed load on the lintel. Choose a fairly good tensile strength for neat cement. Reasoning by analogy from the behaviour of other materials, state whether you would expect the actual breaking loads to be greater or less than calculated.

4. A reservoir made of boiler plate is kept full of air at 60° temperature Fahr., and 30 lbs. absolute pressure. A hole 1 square inch in area is made in the reservoir, and assuming that the air does not change in density or temperature while passing through the orifice,

calculate the head, the velocity of efflux, and the cubic feet of air reduced to atmospheric pressure passing through per minute. Atmospheric pressure = 15 lbs., weight of air at 60° and atmospheric pressure = 0.0765 lb. per cubic foot.

5. Describe briefly the chief chemical and physical properties of wrought iron, steel, cast iron, and gun-metal, and give their tensile and compressive strength. State whether the mottled or light grey cast iron resists best the action of salt water, and why? How long may cast iron be trusted to last in salt water?

Answers should, as far as possible, be illustrated by sketches or diagrams.

Tuesday, 7th April 1891.—11 *to* 1 *o'clock.*

1. Describe the process of brick manufacture, and state in what respect a "common brick" differs from a "fire brick" as regards the material of which it is made.

A brick wall is 2½ bricks thick, 60 feet long, and 10 feet high above footings, which consist of five courses gauging one foot. Calculate the number of "rods" in the entire structure."

2. Discuss the relative merits of the "Cornish" and the "Lancashire" types of boiler.

A cylindrical boiler, 7 ft. diameter, working at 80 lbs. pressure per square inch, is made of half-inch plate. What is the stress on the metal per square inch of section?

3. What is meant by "reciprocal force diagrams"?

A bent jib-crane is intended to lift 10 tons. The flanges at the base are 5 feet apart, and are struck from centres in the same horizontal line; the inner flange, consisting of four equal bays, being a circular quadrant of 20 feet radius, and the outer, a circular segment of 23 feet radius. The bracing is formed of a series of isosceles triangles, the bases of which are the equal bays of the inner flange. Determine graphically the stresses in all the members.

4. A canal lock is 20 feet wide from centre to centre of heel-posts, the rise of the gates to the centre of the mitre-posts is 5 feet, and the water is 10 feet deep against the gates. Assuming the gates receive no assistance from the bottom sill, calculate the whole pressure on the mitre-posts. Supposing the gates to be framed with 10″ × 12″ pitch pine crosspieces (or transoms), how many will be required for each gate? Take modulus of transverse rupture = 1320 lbs.; factor of safety = 6; and neglect the direct compressive stress.

5. An engine of 150 h.p. indicated, makes 35 revolutions per minute, and the fluctuation of energy amounts to thirteen hundredths of that developed in one revolution. What must be the weight of a fly-wheel of 20 feet diameter, so that the fluctuation may be not greater than one fortieth?

Answers should, as far as possible, be illustrated by sketches or diagrams.

Tuesday, 7th April 1891.—2 *to* 4 *o'clock.*

1. The angle between the extreme tangents of a railway curve, 5 furlongs 3 chains radius, is 128° 26′. Calculate in feet the length of the tangents, and the distance of the middle point of the curve from their intersection.

2. Describe the construction of an earthwork dam suitable for an impounding reservoir.

A dam of this kind is 8 feet broad at top, and has slopes of 3 to 1, and $2\frac{1}{2}$ to 1 on its faces. The ground being level cross-wise, calculate the total cubic contents of the dam from the following levels taken along its centre line. All the stations are 33 feet apart, and the staff readings taken *on* the same station are enclosed in brackets:—4.53; 5.63; 7.63 (8.12; 1.36); 1.77; 7.80 (11.22; 14.4); 6.38; 5.20; 3.93; 2.45.

The first station is 200 feet, and the top of the dam 198 feet above datum.

3. A wrought-iron pillar, rectangular in section and 12 feet long, is required to support a load of 30·44 tons. The shorter side of the cross section being 3″, and the factor of safety 4, determine the length of the longer side.

4. What is "camber," and how is its amount calculated?

A bridge-girder is 150 feet span, 10 feet deep, and, including its own weight, carries a distributed load of 1.25 tons per foot run. The material is steel, and the net sectional area of each flange at centre is 42 square inches; calculate the deflection (E = 13,000).

5. Give the chief reasons that have led to the employment of compound engines in preference to expansion in a single cylinder.

The boiler and the back pressure in a single and in a compound engine are the same, namely, 84 lbs. and 3 lbs. respectively. Supposing also the liquefaction to be the same at the best ratios of expansion (*i.e.*, 5 for the single and 7 for the compound engine), and that $\frac{1}{20}$th of the work is lost by wire-drawing between the cylinders in the compound engines; compare the efficiencies.

Answers should, as far as possible, be illustrated by sketches or diagrams.

DRAWING.

Wednesday, 8th April 1891.—11 *to* 1 *o'clock.*

Plane Geometry.

1. A is the centre of a circle $1\frac{1}{2}$″ radius, B is the centre of another circle of 1″ radius, and CD is their common tangent. Find the centre of a third circle which shall touch both these circles and the tangent CD.

2. An ellipse is placed with its major axis vertical, and touching, at the lower extremity of the major axis, a horizontal straight line. Draw the locus of the upper extremity of the major axis as the ellipse rolls on this line through an angle of 180°. Major axis = 3″; minor axis = 2″.

3. The connecting rod of a horizontal engine is 4 feet long, and the crank 1 foot. To the middle point of the connecting rod a link 4 feet long is suspended, and the lower end of it slides in a vertical slot, the centre line of which is 2 feet from the crank shaft centre. Draw the locus of the middle point of the link. Scale : $1\frac{1}{2}'' = 1$ foot.

SOLID GEOMETRY.

1. Find the traces of a plane which makes angles of 60° with the horizontal, and 45° with the vertical plane of projection respectively. Find also the trace of another plane perpendicular to the first and making an angle of 30° with the horizontal.

2. A round-iron anchor ring 4″ external, and 2″ internal diameter, rests on the horizontal plane. Draw the plan of a section of it made by a plane inclined at 30° passing through the centre of the ring.

2. Draw an isometric projection of a segmental arch : span = 12 feet ; rise = 4 feet ; thickness of ring = 2 feet ; depth of arch = 2 feet. There are eight voussoirs and the joints are radial. Natural scale : $\frac{1}{2}'' = 1$ foot.

Inking is unnecessary.

Wednesday, 8th April 1891.—2 *to* 5 *o'clock.*

From one or other of the figured sketches supplied—(1) Cross girder for railway bridge, (2) Expansion valve—make the detailed drawings indicated.

Inking in is unnecessary.

SECTION E.—Department of Public Health.

MEDICINE.

Monday, 7th July 1890.—11 *to* 1 *o'clock.*

1. What are the diseases ordinarily met with or likely to occur in home-bred or imported animals which should be regarded as rendering the meat unfit for the food of man?

2. What are the conditions under which Asiatic cholera may be spread, and what are the provisions for preventing it?

3. Mention the chief industries which are specially liable to produce lung diseases.

What are the forms of lung disease so produced?

State generally what preventive measures have been or may be applied.

SANITARY LAW AND VITAL STATISTICS.

Monday, 7th July 1890.—2 *to* 4 *o'clock.*

1. What are the provisions under the Public Health Act for dealing with unwholesome food?

2. State the process from seizure to condemnation of a carcase unfit for the food of man.

3. Artisans' and Labourers' Dwellings Acts: State shortly what are the powers of—

(*a*) Torrens's Acts.
(*b*) Cross's Acts.

4. What is meant by the crude rate of mortality? How is it ascertained? Give an example.

PRACTICAL SANITATION.

First Paper.

Tuesday, 8th July 1890.—11 *to* 1 *o'clock.*

1. State what is considered the best form of isolation hospital for infectious diseases, so that two forms of infection in both sexes can be efficiently dealt with.

How much cubic space should be allowed for each?

2. Who are the persons who may be removed to an infectious hospital, and under what compulsory powers can this be done?

3. Discuss in as much detail as time will allow the several means of ventilation applicable—

(*a*) To an ordinary bedroom.
(*b*) A place of public assembly.
(*c*) An hospital ward.

State clearly what you consider to be the merits of the systems you prefer.

Second Paper.

Tuesday, 8th July 1890.—2 *to* 4 *o'clock.*

1. Explain fully what is meant by "a head of water"—"an hydraulic gradient"—and "hydraulic mean depth"; and point out the bearing of each upon the design of systems of sewerage and of water supply.

2. Why is it desirable to protect a dwelling from damp? Describe the various methods by which this may be done, and state the conditions under which each would be suitable.

3. Describe fully the manner in which you would carry out the inspection of a large house with a view of reporting upon its sanitary state. Mention incidentally the points which you consider of chief importance in regard to internal sanitary arrangement, and in which mistakes are most frequently met with.

4. In what circumstances would you prefer the egg-shaped to the circular sewer? What are the usual proportions of the former? Sketch the section of such a sewer, showing how the invert is put in. Name the materials employed in its construction, and state how the necessary thickness of the brickwork ring is determined.

Answers should, as far as possible, be illustrated by sketches or diagrams.

Section F.—Department of Agriculture.

AGRICULTURE AND RURAL ECONOMY.

Friday, 17th October 1890.—9 *to* 11 *o'clock.*

1. Explain "line-breeding" of cattle in accordance with the usual acceptation of the term. (*a*) What effect has the mating of animals of close affinity on the produce? (*b*) What effect has in-breeding on the health and development of the breed? (*c*) What is the best course of breeding to pursue in order to fix a distinct type?

2. What are the chief characteristics of the Shire horse? (*a*) In what respect does he differ from the Clydesdale? (*b*) What will an improved Clydesdale or Shire horse cost to rear to the age of three years, including sire's fee and an allowance for the loss of the mare's work while nursing the foal?

3. Shortly describe the management of a breeding flock of Border Leicester sheep, or other lowland breed, throughout the year. (*a*) State cost of management and artificial foods used; (*b*) percentage of lambs at weaning time, average percentage of deaths and of barren ewes. What proportion of young ewes must be added to the flock in order to maintain it in a satisfactory state?

4. How many litters of pigs will a large Yorkshire or a Berkshire breeding sow rear in twelve months? What is the number of an average litter? (*a*) What price will they average as commercial pigs when ready to wean at the age of say six weeks? (*b*) What will a breeding sow cost for a year's food and attendance? At what price do you estimate the value of the resulting manure?

5. With food at current prices, what will a dairy cow in full milk cost per week during the winter six months? Give a detailed statement of the quantities and values of the different ingredients you recommend as the weekly rations. Estimate the weekly value of the manure. (*a*) What will be the weekly cost of a cow in full milk, during the summer six months, if grazed on a pasture rented at 45s. per acre, including rates and taxes? Will it pay to give artificial food? if so, name the kind and quantity per week. What is the value of the manure from a cow during summer, kept in the way you describe? (*b*) Under this system of management, what should be the average yield of milk in imperial gallons (10 lbs. 4 oz.), and what should be the gross return

per cow, with milk at 6½d. per gallon, including 30s. for the new-born calf?

6. What is the best breed of dairy cattle for winter dairying? Contrast the profits to be made between a purchased "down-calving" cow, to be milked and fattened at the same time, and of a cow bred and reared on the farm and treated in the usual way.

7. What do you understand by the "food-ratio"? What ratio would you apply to cows in milk, what to young growing stock, and what to cattle being finished off for the butcher? At present prices, what are the most economical food products to use in compounding a food-ratio for a dairy cow? Give quantities, chemical composition, and prices.

8. State the approximate manurial value of the liquid and solid excrement per week from a dairy cow in full milk, fed on hay and roots, with the addition of 3 lbs. of cotton cake, 3 lbs. bean meal, and 2 lbs. ground oats per diem. What is the weekly value of the manure from a two and half year old fattening steer fed on roots, cut hay, and straw, with 4 lbs. linseed cake (12 per cent. oil), 3 lbs. bean meal, and 2 lbs. barley meal per day?

31*st March* 1891.—10 *to* 12 *o'clock.*

1. Give a short description of the different established breeds of cattle in Great Britain,—their general characteristics, and the soils and localities best suited to their healthy development.

2. Describe the general principles of breeding. In what direction is the prepotency of the sire most apparent in the produce? Where does the latent hereditary tendency of the dam crop out most strongly in the progeny? Can you explain the effects of a great disparity in size between that of the male and female. In what direction is the influence likely to preponderate?

3. At what age should home-reared cattle be ready for the butcher under present conditions in the case of a good mixed farm situated in a lowland district? What would be the carcass weight of any of the improved breeds at the age you mention? What would be the cost of production per lb. of carcass? What would be the approximate quantity of manure made, and its net value, on the farm? What foods would you use and in what proportions? Give their values and albuminoid ratios.

4. Taking the unregistered shorthorn as a fair type of a general-purpose dairy cow, what quantity of milk should she yield in twelve months? What percentage of butter fat should it contain? With new milk at 6d. per imperial gallon, butter at 1s. per lb., "skimmed," or separated milk at 2½d. per imperial gallon, what would be the most profitable system of management?

5. Describe the best system of housing and feeding a herd of dairy cows on a tillage farm. Describe the rotation of crops best suited for the purpose. State at what time the different crops would be ready for

use, what weight per acre each crop would produce, and what artificial foods you would recommend in conjunction with forage crops.

6. What food should be given per day to a feeding bullock rising two years old and weighing as a "laid-in" store 1000 lbs. live weight? What increase would you expect per week? Make out a balance of profit or loss, showing the cost of food and the return from produce, including dung.

7. Is straw deteriorated as fodder by being allowed to remain a long time in stack after being thrashed? In what way can straw be prepared for stock to make it more palatable than it is in the condition in which it comes from the thrashing mill?

8. What are the best means of preserving the root crop throughout a lengthened period of severe weather, similar in intensity to the past winter, and give reasons why? What is the best system of storing the mangel crop.

9. What are the functions of lime in soil?

CHEMISTRY AS APPLIED TO AGRICULTURE.

The paper in Calendar 1890-91 *under this heading was inserted by mistake instead of the following.*

29th March 1890.—9 *to* 11 *o'clock.*

1. From what natural sources, and in what forms do plants derive their supplies of nitrogen? Discuss briefly some evidence of the power of plants to assimilate free nitrogen.

2. To what causes, physical and chemical, may the infertility of a soil be attributed? How may this be remedied?

3. What is the composition of butter-fat? How does it differ from, and how may it be distinguished from other animal fats?

4. What are the essential constituents (from a manurial point) of the following materials:—Bone-Meal, Kainit, Sulphate of Ammonia, Shoddy, Dried Blood, Nitrate of Soda, Basic Slag, Superphosphate, Rape Cake, Peruvian Guano. Give approximately the percentages of these constituents found in commercial samples. Mention some of the special uses of the above manures.

5. Give a short account of the advantages of "green-manuring."

6. In arranging the diet of animals, what considerations would you be guided by to meet the requirements of—(*a*) Young growing animals. (*b*) Fattening stock. (*c*) Dairy cows. (*d*) Working horses.

Thursday, 16th October 1890.—9 *to* 11 *o'clock.*

1. How may the constituents of food be classified? Describe their respective functions, and the changes they undergo in the processes of nutrition.

2. Give examples of the absorptive properties of different soils, and show how the fertility of a soil is affected by these properties.

3. Describe the different methods for separating cream from milk.

4. Describe the process of germination of a seed, and show how and from what sources the plant derives its food during its development.
5. Give a short account of "nitrification."
6. In what forms are "phosphoric acid," "potash," and "nitrogen" usually applied as manures, and for what crops is each of these manurial constituents especially useful?

March 30th, 1891.—10 *to* 12 *o'clock.*

1. In the form of what compounds may sulphur exist in soils? Mention whether any of these are injurious to vegetation, and how you would proceed to test for their presence.
2. There is reason to believe that the soil of India is frequently very deficient in nitrogen; nevertheless, leguminous crops, as well as leguminous trees and weeds, are more abundant than in England. Can you suggest any possible explanation for the above?
3. Considering starch and sugar as feeding materials, upon what grounds are their relative values assessed? Show how the feeding value of a root-crop may be affected according as it is used in an immature, in a fully ripe, or in an over-ripe condition.
4. Give any precautions which should be observed in using gas-lime as a manure. What are the objections to the employment of alkali waste in Agriculture? What injurious ingredient may sulphate of ammonia sometimes contain, and whence does it arise?
5. Give, in the form of a short paper, a summary of the Rothamsted experiments (manurial) on permanent pasture.
6. Is the amount of cream which rises on the surface of milk when allowed to stand, a reliable index of the quality of the milk? If not, explain what may prevent it being so. What peculiarity does goat's milk exhibit.
7. Give instances of the action of organisms in the case of (*a*) the soil, (*b*) the keeping of milk, (*c*) the making of hay.

VETERINARY HYGIENE.

Thursday, 16th October 1890.—1 *to* 3 *o'clock.*

1. What is the normal number of the pulse in the horse and ox? Give the variations of a healthy pulse, and state the significance of its acceleration and retardation.
2. How many diseases of the sheep are generally known as rot? Give a brief description of their causes, symptoms, and treatment.
3. What are the periods of gestation in the mare, cow, and ewe?
4. What results would you expect to follow the placing of animals on young and luxuriant vegetable matter, such as clover, for the first time, and state what precautions you would take for the purpose of obviating such results?
5. State the effects of the following materials in animals—mouldy

hay, mow-burnt (*i.e.*, heated in the rick) hay, mouldy grain, damp grain, kiln-dried oats, and sanded hay, and what treatment you would subject such materials to (in cases where good food cannot be obtained) before giving it to animals.

6. State briefly what rules you would follow in the paving, draining, and ventilating of stables and cow-sheds.

March 31st, 1891.—1 *to* 3 *o'clock.*

1. Describe the processes of the digestion and absorption of "Starch" and "Fats."

2. Enumerate the diseases of the feet of cattle and sheep; suggest the methods for their prevention, and give a few of their most prominent symptoms.

3. What are the sources and nature of the impurities of the air in a stable.

4. State what principles are to be observed in the breeding and rearing of farm animals, and, especially, state the precautions necessary to be observed in the case of the ewe immediately before and after parturition.

5. State how cultivation influences vegetation in relation to the production of disease in animals.

6. Enumerate the parasitic diseases most commonly met with in the domestic animals. State what parasitic larvæ are found under the skin of the ox, in the stomach of the horse, and in the nostrils of the sheep; and how to prevent parasitic diseases generally.

ENGINEERING.

Wednesday, 5th November 1890.—10 *to* 1 *o'clock.*

1. Explain fully how you would set about making a survey of a large estate. Give sketches in illustration of your answer. What is contouring?

2. Compass variation being 20° W., the following bearings were observed:—N. 52° E., S. 12° W., N. 16° W., S. 42° E. Find the true bearings.

3. Explain how to construct a vernier so as to read 20 seconds. Why are two verniers used in the horizontal limb of a theodolite?

4. Assuming the safe resistance to compression of the timber to be 450 lbs. per square inch, determine the minimum cross section of two similar wooden posts, 12 ft. apart, to support a cross beam carrying a load of 12 tons, at a point 3 ft. from one of the posts.

5. A water-tank, 6 ft. long, and 6 ft. wide, with an inclined base, is 6 ft. deep in front, and 3 ft. at the back, and is filled with water. Assuming a cube foot of water weighs 62.5 lbs., what is the pressure on the four sides and on the bottom of the tank?

6. Sketch a timber queen-post roof-truss suitable for a span of 35 ft. Name all the parts, and figure on each its approximate dimensions.

7. The mortar for a building is specified to be of good stone lime. What proportion of sand would you use with the lime, and how would you know whether, or not, a pure lime was being used in the work, instead of that specified?

8. Explain the process and effects of seasoning timber. What is silver grain in oak due to, and how must a log be cut, in order to show it to the best advantage?

9. What is the difference between Bessemer, blister, Siemens-Martin, and shear-steel? Describe the physical character of each, and mention some of the purposes for which each is specially adapted.

10. Power is being transmitted by a rope. The wheel which carries the rope is 14 ft. diameter, and makes 30 revolutions per minute; and the rope tension is 100 lbs. Estimate, in horse-power, the amount of power transmitted.

11. What diameter of cylinder, in a non-condensing steam-engine, will develop 50 HP. with a 4 ft. stroke, 40 revolutions per minute, and a mean effective steam pressure of 30 lbs. per square inch above atmospheric?

12. Explain the terms "lap," "lead," "cushioning," and make such sketches as are needful to render your answer clear.

Answers should, as far as possible, be illustrated by diagrams or figured sketches.

Monday, 6th April 1891.—10 *to* 1 *o'clock.*

1. How, using the chain alone, and without using rectangular offsets, would you prolong a line beyond an obstacle which could not be seen over?

2. What is meant by the index-error in the vertical arc of a theodolite?

Show how an arc and vernier must be graduated so as to read to 10 seconds.

3. State and prove the proposition known as the "Triangle of Forces."

Show, in any way, how forces of 3, 9, and 11 units must act at a point if they balance each other.

4. Define a foot-pound and a horse-power.

Calculate the horse-power of a waterfall 20 feet high, supposing the stream above the fall flows through a section of 6 square feet at a speed of 2.5 miles an hour.

5. What is meant by "the modulus of elasticity" of a material.

By the application of a weight of 68 lbs., a wire 10 feet long and $\frac{1}{16}$ inch section is stretched $\frac{2}{16}$ inch. Find the modulus of elasticity of the material.

6. Give a brief account of the method of manufacturing wrought iron; and state what difference there is between cast iron, wrought iron, and steel, as regards the carbon they contain.

7. What kind of timber would you use, and why, for each of the following purposes?—Dock gates, treads of stairs, earth waggons, pile foundations, roof trusses, cart shafts, posts for wire fencing, naves and spokes of wheels.

State what you know about the means employed to prevent decay in timber.

8. How would you calculate the horse-power any given line of shafting was capable of transmitting?

Show, by a sketch, a form of shaft-coupling suitable for mill-work.

9. A spur-wheel has teeth of 3 inches pitch. Draw a tooth and figure on it the thickness at the pitch line, and the height above, and depth below, the same line. What is meant by the clearance of wheel teeth?

10. Having calculated the stresses, draw, to a scale of $1\frac{1}{2}''$ to a foot, the cross section at the centre of a wrought-iron plate-girder suitable for carrying a distributed load of 12 tons over a 25 feet opening.

11. Sketch a section of a directly loaded safety valve.

Suppose the diameter of such a valve is 4 inches, what must the total load be to allow of steam to be blown off at 75 lbs. actual pressure?

12. The diameter of an engine cylinder is 3.5 feet, the stroke is 5 feet, and cut-off is at one-third stroke. Find the work done in one stroke if steam be admitted at 45 lbs. pressure (log. 3 = 1.0986).

13. State what you know about the methods employed for ascertaining the discharge of streams and rivers.

What quantity of water will flow in an hour from a still pond through a rectangular notch 3 feet wide, if the surface of still water be 10 inches above the crest of the notch?

Answers should, as far as possible, be illustrated by sketches or diagrams.

EXAMINATION FOR D.Sc.

SECTION C.—Department of the Physical Experimental Sciences.

INORGANIC CHEMISTRY.

13th March 1891.—10 *to* 4 *o'clock.*

Write an abstract and criticism of the papers laid before you (papers by Harcourt and Esson on the rate of Chemical Action), and describe what has been done in this same direction since these papers were published.

14th March 1891.—10 *to* 4 *o'clock.*

Write an essay on the oxides and oxygen acids of arsenic, pointing out the resemblances and differences between them and the corresponding compounds of phosphorus.

16th, 17th, 18th, and 19th March 1891.—10 *to* 4 *o'clock each day.*

Practical laboratory work—Preparation of pure tetratheorates.

ORGANIC CHEMISTRY.

13th March 1891.—10 *to* 4 *o'clock.*

Write an abstract and criticism of the papers laid before you (papers by Frankland and Duppa on the Synthesis of Acids of the Lactic series), and continue the history of the subject to the present time.

14th March 1891.—10 *to* 4 *o'clock.*

Write an essay on organic compounds containing double rings.

16th, 17th, 18th, and 19th March 1891.—10 *to* 4 *o'clock each day.*

Practical laboratory work—Preparation of dimethyl-malonic ether and diethyl-malonic ether and salts of the acids.

Degrees in Science.

DOCTORS OF SCIENCE.

The names of all the Doctors of Science of this University, previously to 1889, will be found in the Historical Appendix to List of Graduates published in 1889, pp. 132-134. The following are the names of the Doctors from 1887 to 1891, both years included :—

A. DEPARTMENT OF MENTAL SCIENCE.

1887. John Dundas Robertson, M.A.
1891. William Mitchell, M.A.
,, Robert Mark Wenley, M.A.

C. PHYSICAL AND NATURAL SCIENCE.

a. Department of the Mathematical Sciences.

1888. William Peddie.[1]
1890. Alexander Crichton Mitchell.[2]

[1] Assistant to Professor of Natural Philosophy.
[2] Professor of Mathematics, Maharajah's College, Trivandrum, Travancore.

b. Department of the Physical Experimental Sciences.

1887. Prafulla Chandra Rây, M.B. (Chemistry).
1888. James Burgess Readman (Chemistry).
1889. Thomas Rhymer Marshall (Chemistry).
1890. Hugh Marshall.
1891. William Cossar Mackenzie.
,, Thomas Smith Murray.

c. Department of the Natural Sciences.

1887. William A. Haswell (Zoology).[1]
,, George Neil Stewart, M.A. (Physiology).

D. DEPARTMENT OF ENGINEERING.

1888. Archibald Campbell Elliott.[2]

E. DEPARTMENT OF PUBLIC HEALTH.

1887. Thomas Goodall Nasmyth, M.B.[3]
,, Edward William Hope, M.D.[4]
1888. John Berry Haycraft, M.D.
1890. James Anderson, M.D.
,, James Andrew Blair, M.B.
,, William John Brock, M.B.
,, John Stevenson, M.B.

Degrees Conferred in 1890-91.

THE DEGREE OF DOCTOR OF SCIENCE.

In the Department of the Mathematical Sciences.

17th April 1891.

William Mitchell, M.A.
Thesis—"The Logic of End and Means."

Robert Mark Wenley, M.A.
Thesis—"Pessimism."

In the Department of the Physical Experimental Sciences (Chemistry).

17th April 1891.

William Cossar Mackenzie, B.Sc.
Thesis—"On the Action of Sodium and Sodium Ethylate on Valerolactonecarboxylic Ester, and Preparation and Properties of Methylvalerolactonecarboxylic Acid."

Thomas Smith Murray, B.Sc.
Thesis—"On the Electrolysis of Potassium Acetate."

---

[1] Lecturer on Natural History, University, Sydney.
[2] Professor of Engineering, Cardiff.
[3] Medical Officer of Health, Beith, &c.
[4] Lecturer on Public Health, University College, Liverpool.

THE DEGREE OF BACHELOR OF SCIENCE.

In the Department of the Mathematical Sciences.

1st August 1890.

Charles Tweedie, M.A.

29th November.

John King, M.A.

17th April 1891.

John Carruthers Beattie. | Alfred Hay.

In the Department of the Physical Experimental Sciences.

1st August 1890.

Peter Ford Gillies. | John Myles, M.A.
Jacques François Marais, B.A. | Robert Greig Smith.

17th April 1891.

Robert Garry. | James Rennie. | William Sinclair.

In the Department of the Natural Sciences.

1st August 1890.

John Melvin Lowson, M.A. | John Stewart Norwell.
James Adam Terras.

17th April 1891.

James Adamson, M.A. | John Young, M.A.

In the Department of Engineering.

17th April 1891.

John Reid Dick. | William Maxwell Mackison.
George Walker Herdman. | Alexander Ogilvie.

In the Department of Public Health.

1st August 1890.

James Angus Cameron, M.D. | James Henry Horsburgh, M.B.
R. W. Dickinson Cameron, M.D. | Thomas Sharp Kerr, M.B.

29th November 1890.

Alfred Charles Coles, M.B. | Archibald Hutton Veitch, M.B.
Alfred Maxwell Williamson, M.B.

In the Department of Agriculture.

29th November 1890.

Henry Ward Joyce.

17th April 1891.

George Edward Gabites. | George Thomas Luxton.
Thomas Parker Greenwood. | John Murray.
Robert James Irving. | James Pender.

Fellowship, Scholarships, Bursaries, Prizes, &c., in Science.

I.—FELLOWSHIP, &c.

THE FALCONER MEMORIAL FELLOWSHIP.

This Fellowship was founded in 1869 by the Subscribers to the Fund for a Memorial to Hugh Falconer, M.D. (for many years Superintendent of the H. E. I. Company's Botanic Gardens at Suharunpoor and Calcutta), and the Association for the better Endowment of the University of Edinburgh. It is of the annual value of £111, 0s. 4d.; and is for the encouragement of the Study of Palæontology and Geology. It is tenable for two years, but if the Senatus see fit, it may be held for three years, and with consent of the University Court, for four years, and is awarded after competitive examination in Natural History as applied to Palæontology and Geology. It is open to Graduates in Science or Medicine of this University of not more than three years' standing at the time of the competition. It cannot be held along with any other Fellowship, Scholarship, or Bursary in any Scottish University. The Deed of Foundation will be found at p. 270 of the CALENDAR for 1870-71. The next appointment will be made in July 1891.

1888. *Malcolm Laurie, B.Sc.*

THE WILLIAM DICKSON TRAVELLING FUND.

This is a fund for the purpose of assisting Graduates of any Faculty, of not more than three years' standing, to travel for the purpose of study or research. For particulars, see p. 225.

II.—SCHOLARSHIPS.

I.—BAXTER PHYSICAL SCIENCE SCHOLARSHIP.

This Scholarship was founded by Sir David Baxter, Bart., of Kilmaron, in 1865, and is of the annual value of £71, 7s. 10d., tenable for two years. By the terms of the Deed of Foundation (given in the CALENDAR for 1866-7, p. 203), it is awarded to the most eminent of the Bachelors in Science, who have passed their examinations in the Physical Sciences, including Experimental Philosophy and Chemistry, either in the year preceding a vacancy, or in the year in which a vacancy occurs. Amongst other conditions the second year's tenure of this Scholarship is subject to the condition that the holder shall have taken the Degree of Doctor in Science in the first year of his tenure of it. It cannot be held with any other Scholarship, Fellowship, or Bursary, or with any situation yielding an annual income of £100.

1887. Thos. B. Marshall, B.Sc. | 1890. *Thos. Smith Murray, B.S.*

II.—BAXTER NATURAL SCIENCE SCHOLARSHIP.

This Scholarship was founded by Sir David Baxter, Bart., of Kilmaron, in 1865, and is of the annual value of £71, 7s. 10d., tenable for two years. By the terms of the Deed of Foundation (given in the CALENDAR for 1866-67, p. 203), it is awarded to the most eminent of the Bachelors in Science, who have passed their examinations in the Department of the Natural Sciences, including Botany, Zoology, Physiology, and Geology, either in the year preceding a vacancy or in the year in which a vacancy occurs. Amongst other conditions the second year's tenure of this Scholarship is subject to the condition that the holder shall have taken the Degree of Doctor in Science in the first year of his tenure of it. It cannot be held with any other Scholarship, Fellowship, or Bursary, or with any situation yielding an annual income of £100.

1888. G. F. Scott-Elliot, B.Sc.
1890. Robert Murray Leslie, M.A., B.Sc.

III.-VIII.—VANS DUNLOP SCHOLARSHIPS.

These Scholarships may be held by Science Students. They are each of the annual value of £100, and are tenable for three years, on condition that the scholar submits annually—(1.) A certificate of attendance on lectures or laboratories approved by the Senatus; or (2) a certificate of having acted as an assistant to a Professor in this or some other University; or (3) a written report of his work done during the year, together with a Thesis composed by himself in connection with some part of that work.

III.—MATHEMATICS.[1]

The next Competition will take place in April 1892.

IV.—NATURAL PHILOSOPHY.[1]

The next Competition will take place in April 1892.

V.—AGRICULTURE AND RURAL ECONOMY.[1]

The next Competition will take place in March 1892.

VI.—CHEMISTRY AND CHEMICAL PHARMACY.[2]

The next Competition will take place in April 1894.

VII.—NATURAL HISTORY, INCLUDING GEOLOGY AND BOTANY.[2]

The next Competition will take place in April 1892.

VIII.—ENGINEERING AND MECHANICAL AND USEFUL ARTS.[1]

The next Competition will take place in April 1894.

[1] For particulars, see "Scholarships" in Faculty of Arts.
[2] For particulars, see "Scholarships" in Faculty of Medicine.

IX.—STEVEN SCHOLARSHIP.[1]

Is awarded annually in March.

X.—HOPE PRIZE SCHOLARSHIP.[2]

Is awarded annually in March.

XI.—NEIL ARNOTT SCHOLARSHIP IN EXPERIMENTAL PHYSICS.[1]

Is awarded annually in April.

XII.—THE MACKAY SMITH SCHOLARSHIPS.

These Scholarships were at first intended to have been held in Edinburgh and Glasgow Universities alternately, and were so held in Edinburgh for the Sessions 1883-84 and 1884-85, and in Glasgow for the Sessions 1885-86 and 1886-87. It was, however, afterwards arranged, instead of the Scholarships alternating between the two Universities, that the proceeds of the present investment should be divided—one half being retained by the Senatus of the University of Edinburgh, and the other half transferred to the Senate of the University of Glasgow, so that each University now acts independently. The portion of the proceeds at present falling to Edinburgh is £50 annually, which provides one Scholarship in Natural Philosophy and one in Chemistry, each of the annual value of £25, tenable for two years, and to be held under such regulations and conditions as the Senatus may from time to time direct. The Scholarship in Natural Philosophy is open for competition to Students who have attended the Class of Natural Philosophy, and the Scholarship in Chemistry to Students who have attended the Class of Chemistry, both in this University. The successful Candidate for the Scholarship in Natural Philosophy is bound to attend the Class of Natural Philosophy, or to prosecute the study thereof, int he University during at least one year of his tenure of the Scholarship, in such way as the Senatus may direct or approve; and the Scholarship in Chemistry is held under similar conditions as regards attendance on the Class of Chemistry, or the prosecution of the study thereof. The next Competition for these Scholarships will take place at the end of the Winter Session 1891-92.

1887. D. B. Mair (Nat. Phil.), J. Crocket (Nat. Phil.) } equal.; H. Marshall (Chem.)	1889. J. F. M'Kean, M.A. (lapsed Nat. Phil.)
1888. Martin H. Foye (Chem.); A. W. Duff, M.A. (Nat. Ph.)	1890. *R. W. Briggs* (Chem.); *James Holm* (Nat. Phil.)

[1] For particulars, see "Scholarships" in Faculty of Arts.
[2] For particulars, see "Scholarships" in Faculty of Medicine.

XIII.—ROYAL COMMISSION FOR EXHIBITION OF 1851 PHYSICAL SCIENCE SCHOLARSHIP.

The Commissioners have given this University the power of nominating a Student of not less than three years' standing to a Scholarship of £150 a-year, tenable for two years, and which may be extended to three years. The Scholarship is limited to those branches of Science (such as Physics, Mechanics, and Chemistry) the extension of which is specially important for the national industries, and may be tenable in any University or other Institution to be approved by the Commissioners. See Regulations, p. 544 of CALENDAR for 1891-92.

1891. *John Shields, B.Sc., Ph.D.*

Of the foregoing Fellowship, Scholarships, Bursaries, and Prizes, the following are open during the Summer Session 1891 and Winter Session 1891-92.[1]

FELLOWSHIP.

The Falconer Memorial Fellowship, in Palæontology and Geology (I., 530). The next competition will take place on 20th and 21st July 1891—Botany, 20th July, at 2 P.M.; Natural History, 21st July, at 11 A.M., and Geology at 2 P.M. Names to be given in on or before 1st July.

SCHOLARSHIPS.[2]

1. *Vans Dunlop Scholarship in Natural Philosophy* (5, p. 227).
2. *The Vans Dunlop Scholarship in Mathematics* (6, p. 227).
3. *The Vans Dunlop Scholarship in Natural History, Botany, and Geology* (12, p. 446). The several subjects will be co-equal in the Examination, and the Examination in each will be similar to, and shall take place at the same time as, the second B.Sc. Examination. The next award may be made in March 1892.
4. *Vans Dunlop Scholarship in Agriculture* (10, p. 228). The subjects of examination are Agriculture, Chemistry, Botany, and Veterinary Hygiene. The Examination will take place on 4th and 5th April 1892. *4th April*, Agriculture, 9; Chemistry, 11.30. *5th April*, Botany, 9; Veterinary Hygiene, 11.30.
5. *Steven Scholarship in Agriculture* (13, p. 228).
6. *A Hope Prize Scholarship in Chemistry* (2, p. 458).
7. *The Mackay Smith Scholarship in Natural Philosophy* (14, p. 228). The Examination will begin on 9th April 1892, at 9 A.M. Names of Candidates to be entered at the Secretary's Office on or before 18th March.

---

1 *N.B.*—The values of Fellowship, Scholarships, Bursaries, and Prizes are subject to variation consequent on the rise or fall of the rate of interest, &c.

2 For further particulars, see "Scholarships" in Faculties of Arts and Medicine.

8. *The Mackay Smith Scholarship in Chemistry* (8, p. 457). The Examination will be held on the 21st March 1892, at 11 o'clock A.M. Names of Candidates to be entered at the Office of the Faculty of Medicine, on or before 14th March.

9. *Neil Arnott Scholarship for Experimental Physics* (12, p. 228).

Competitors for the above Scholarships must have studied the subjects of Examination at the University of Edinburgh. No Fellowship, Scholarship, or Bursary can be held along with any other Fellowship, Scholarship, or Bursary.

BURSARIES.[1]

1. *One Sibbald Bursay*, value £30.

2-6. *Five Heriot Bursaries*, each of the annual value of £30, and tenable for three years, are open to students matriculating for the first time in the University. Applications to be sent, not later than 1st October in each year, to the Governors of George Heriot's Trust, from whom all relative information may be had on application.

7. *Renton Bursary*, of about £18, 8s. 6d. The Examination is in English and Elementary Mathematics, and will take place on Saturday, November 7, at 10 o'clock. Names of Candidates to be entered at the Secretary's Office, on or before 3rd November.

PRIZES.[2]

1, 2. *Two Gunning Victoria Jubilee Prizes*, one in Zoology, and one in Public Health and Medical Jurisprudence, will be awarded in 1892. Competitive Essays to be lodged with the Dean of the Faculty of Medicine on or before 30th April 1892.

3. *The Hope Chemistry Prize.* The next award will be made in July 1891. Candidates must enter their names before 20th June.

4, 5. *Two Newton Bursaries or Prizes*, of about £21 each, tenable for two years, are awarded annually at the end of the Winter Session —one for proficiency in the Senior (Second) Class of Mathematics, and one in the Junior Class of Natural Philosophy.

6. *The Dobbie-Smith Gold Medal in Botany.* Subject—an original investigation "On the Structure, Development, and Life History of any British Flowering Plant," illustrated by specimens. Essays to be sent to the Dean of the Faculty of Medicine on or before the 1st of July 1891.

7. *The Lord Rector's Prize*, of twenty-five guineas, for the best Essay on "How far Ethical Considerations should enter into the domain of the Science of Political Economy." The Prize is open to Students of the University, and to Graduates of not more than two years' standing. Essays to be lodged with the Secretary of Senatus before 1st Novem-

[1] For further particulars see "Bursaries" in Faculty of Arts.
[2] For further particulars see "Prizes" in Faculties of Arts and Medicine.

ber, each bearing a motto, and containing the name, address, and University standing of the candidate.

8. *The Trustees of Gray's Prize Essay Fund* offer three Prizes, one of £20 for the first, one of £10 for the second, and one of £5 for the third best Essay on "The Life and Poetry of John Milton."

9. A Prize of Twenty Guineas, offered by the University Club of London, open to all Graduates of this University of not more than two years' standing, for the best Essay on "The Education of our Legislators." Essays to be lodged with the Secretary of Senatus, on or before 31st December 1891, each bearing a motto, and accompanied by a sealed envelope containing the name, address, and University standing of the Candidate.

WILLIAM DICKSON TRAVELLING FUND.

The William Dickson Travelling Fund, of about £88 per annum, instituted for the purpose of assisting Graduates of any Faculty of not more than three years' standing to travel for the purpose of study or research. Applications to be lodged with the Secretary of Senatus on or before 15th March.

N.B.—*Scholars, Bursars, or Fellows must apply to the Convener of the Science Degrees Committee, for Certificates to entitle them to draw instalments of Science Scholarships, and to the Factor for payment thereof, within three months after they have become payable, otherwise they will be regarded as having resigned. Any who desire to resign must at once announce this to the Convener and to the Factor.*

JAMES GEIKIE, LL.D.,
Convener of the Science Degrees Committee.

Deeds of New Foundations, etc.

BAILIE COUSIN BURSARY.

I, GEORGE COUSIN, Surveyor in Edinburgh, being desirous to found a Bursary in the University of Edinburgh, with the view of encouraging young men in the lower and middle ranks of life to aspire to a complete University education, and to mortify and secure the sum of Eight Hundred Pounds sterling for that purpose, do hereby bind myself and my heirs, executors, and representatives whomsoever, without the necessity of discussing them in their order, to pay to the Principal and whole other members of the Senatus Academicus of the University of Edinburgh, and their successors in office, for behoof of the said University, one-third of the said Senatus Academicus being a quorum under the Act of Parliament, twenty-one and twenty-two Victoria, chapter eighty-three, or their assignees whomsoever, the sum of Eight Hundred Pounds sterling, said sum to be held by the said Senatus Academicus in trust for the purposes, and subject to the conditions afterwritten, and that at the first term of Whitsunday or Martinmas, which shall happen after the death of the survivor of me and my wife, Williamina Legget or Cousin. . . . Declaring always that the said Bursary shall be held under and be subject to the conditions and regulations following, videlicet:—*First*, That the said Bursary shall bear the name of "Bailie Cousin's Bursary," and shall be tenable under the conditions afterwritten by each Bursar for a period not exceeding three years, during which period the studies of the Bursar shall be prosecuted at the said University. *Second*, That the said Bursary shall be open for competition on each occasion of a vacancy to all Students entering the Faculty of Arts in the said University to commence a regular curriculum (whether for a three years' or a four years' course of study) at the time of the Competition, and shall be awarded after examination conducted by the Professors for the time being of Humanity, Greek, and Mathematics, in the said University, to the Competitor who shall shew the greatest proficiency in the subjects taught by these Professors. As it is my desire that the examination should be conducted so as to form a test of advanced primary education as well as of talent, the examiners shall have power to decide whether any of the Competitors has passed the examination with sufficient credit to entitle him to receive the Bursary, and if the examiners shall, on the occasion of any examination, be of opinion that none of the Competitors has shewn

sufficient merit or attainments to entitle him to the Bursary, or in the event of no Competitor appearing at any Competition, the income of the said sum mortified as aforesaid for that year, or for any period during which the Bursary shall from any cause be vacant, shall be added to the capital of the Foundation. *Third*, That the first Competition for said Bursary shall take place during the first Winter Session commencing after the death of the longest liver of me and my said wife, at a period to be fixed and publicly intimated by the Senatus Academicus. *Fourth*, That the said Bursary shall consist of the free annual proceeds of the said mortified sum—that is, the proceeds after deduction of all necessary expenses (declaring that a fee of one guinea shall be paid to each of the examiners for their trouble), and shall be paid half-yearly in equal proportions at the terms of Candlemas and Whitsunday, beginning the first half-yearly payment at the term of Candlemas immediately following the first Competition for the first half of that Session, and the next half-yearly payment at the term of Whitsunday thereafter, being for the second half of said Session, and so on thereafter. *Fifth*, That the Professors appointed to conduct the Competitions as aforesaid shall report upon the qualifications of the Candidates to the Senatus Academicus, and the decision of the said Professors as to the qualifications of the Candidates shall be subject to the review of the Senatus Academicus. *Sixth*, That it shall not be competent for any person to hold the said Bursary along with any other Scholarship, Fellowship, or Bursary of any Scottish University, or with any situation or appointment of any kind yielding to him an annual income of Thirty Pounds sterling or upwards, and the right of any party appointed to the said Bursary shall terminate on his obtaining any such appointment, and the Bursary shall thereafter become vacant. *Seventh*, That the said Bursary shall be held only during good behaviour, and shall be forfeited when, in the judgment of the Senatus Academicus, the Bursar is by misconduct or any other cause unfitted longer to hold it; but the Bursar shall have the right of appeal to the University Court against any decision of the Senatus Academicus depriving him of the Bursary, provided the said appeal is taken within eight days, which appeal must be heard and disposed of by the University Court with all possible despatch, but in the meantime the decision of the Senatus Academicus shall receive effect from its date; and further declaring that the Senatus Academicus shall, at the close of each Session, require a Report from the Professors at whose classes the Bursar has attended, stating whether the Bursar has been regular in his attendance, and has exhibited diligence and progress in his studies, and in the event of the Professors reporting unfavourably of the attendance of the Bursar, or of the progress made by him, it shall be in the power of the Senatus Academicus to deprive him of the Bursary, providing, however, that if any one of said Professors should report that the Bursar exhibited more than average proficiency in the department of his class, it shall not be in the power of the Senatus Academicus to deprive the Bursar, unless it shall

be shewn that he has not given attendance *bona fide* at the other classes required by the Curriculum; and *Lastly*, That the said Senatus Academicus and their successors in office shall be entitled to make such further regulations from time to time as they may consider desirable for the administration of the said Bursary with the view of more effectually carrying out the intentions I have expressed in making the bequest of the said sum of Eight Hundred Pounds, and in the foregoing Regulations. And it is hereby declared that the Senatus Academicus for the time being of said University shall have full power to retain the foresaid investment, or to reinvest the said mortified sum on other good and approved heritable security, or in the purchase of well-secured feuduties, or on the Debentures of well-established Railway Companies, or in the purchase of Government Stock, or in such other way as they may think proper, with power to them to call up and reinvest the said mortified sum as often as they may think proper: Declaring that they and their foresaids shall be in no way liable for the sufficiency of any security on which the said mortified sum may at any time be invested; and I consent to Registration hereof for preservation and execution. —In witness whereof, &c. Dated 8th October; Registered 24th December 1879.

STEVEN LECTURESHIP.

I, Miss Elizabeth Steven of Bellahouston, in the County of Lanark, having resolved to found and endow a Lectureship in connection with the Chair of Agriculture in the University of Edinburgh for the Advancement of the Science of Agriculture, in connection with which my sister, the late Miss Grace Steven, and I formerly endowed a Scholarship in memory of our brother, the late Moses Steven, Esquire of Bellahouston aforesaid, who took an interest in the Science of Agriculture, and who died at Edinburgh on the twenty-seventh day of July Eighteen hundred and seventy-one; and I, the said Elizabeth Steven, having paid over the sum of Three Thousand Pounds sterling to the University of Edinburgh for the endowment of the said Lectureship, do hereby mortify the said sum of Three Thousand Pounds sterling to and in favour of the said University of Edinburgh and of the University Court of the said University, incorporated under the Universities (Scotland) Act, 1889 (Eighteen hundred and Eighty-nine), and their successors in office, for the Foundation and Endowment of a Lectureship, to bear the name of the "Steven Lectureship," in connection with the Chair of Agriculture in the said University; and I hereby direct and appoint that the said Lectureship shall be in the gift and appointment of an Electing body, consisting of the Principal of the said University, the Professor of Agriculture in the said University, both for the time being, and three representative members of the University Court of the said University for the time being, such three epresentative members being appointed by the said University Court;

which Electing body (the majority being a quorum) shall be the Patrons of the said Lectureship ; and the said Lectureship shall be held and be subject to the conditions and regulations following, viz.: *First*, The income of the said Lectureship shall consist of the free annual income of the said mortified fund, that is, the income for one year after deduction of all necessary expenses attending the management of said fund as fixed by said Electing body or their quorum ; and the said Lectureship shall be held by each Lecturer for a period of three consecutive years, and each Lecturer shall be eligible for re-election ; *Second*, The first appointment of a Lecturer to the said Lectureship shall take place at or before 31st December next ; and each Lecturer, on being appointed, shall lecture to the Students attending the class of Agriculture in the University of Edinburgh, and to such other parties as may be allowed to attend the Lectures on such subjects as shall have been prescribed by the Electing body before the Election ; or, if the subjects have not been so prescribed on his appointment, then the Lecturer, after consultation with the Professor of Agriculture in the said University for the time being, shall indicate the subjects on which he proposes to lecture during each of the three years of his tenure of office, and these subjects shall be submitted to the Electing body for their approval, and must be approved of by them before the Lectures are delivered ; *Third*, The University Court of the said University, with due regard to the power of the Senatus Academicus to regulate and superintend the teaching and discipline of the University, and after communicating with the Professor of Agriculture in the said University for the time being, shall have power to regulate and determine the period of lecturing, the number of lectures, the fees to be charged (Students attending or who have attended the Class of Agriculture in the said University being always admitted to said Lectures free of charge), and all other details connected with the said Lectureship, the University Court keeping always in view, as my intention in founding the said Lectureship, the benefit of those engaged in agricultural and pastoral pursuits in Scotland ; and *Lastly*, I hereby declare that the said University Court and their successors in Office shall have full power to lay out and invest, and also to reinvest from time to time, the said mortified fund on any of the securities or investments allowed by law for Trust funds in Scotland ; declaring that the said University Court and their successors in Office shall be in no way liable for the sufficiency or insufficiency of the scurities or investments on which the said mortified fund, or any part thereof, may at any time be invested : And I consent to registration hereof for preservation ; In witness whereof.—Dated 22nd February 1890.

BEQUEST BY DR THOMAS HILL PATTISON FOR FOUNDING A BURSARY IN THE FACULTY OF MEDICINE.

ONE-SIXTH part or share (of the residue of the Estate) to the University of Edinburgh, to be paid to John H. Balfour, Esq., Dean of

the Faculty of Medicine in said University, or to the Dean of the said Faculty for the time, to be applied in founding a Bursary for the benefit of Students of Medicine in said University, and to be subject to such conditions and regulations as the Professors for the time in the said Faculty of Medicine should appoint.

THE CRICHTON BURSARIES.

EXCERPT from the Trust Disposition and Settlement by Major ROBERT ORR CRICHTON, of Lynn, Ayrshire, Doctor of Medicine, who died in 1889.

MY said Trustees shall, as soon as conveniently may be after my death, dispone, convey, and make over the whole rest, residue, and remainder of my whole means and estate of every kind hereby conveyed, and prices and proceeds of the same so far as realised by them, and rents, interest, and other income thereof, to the Members of the Senatus of the University of Edinburgh and their successors in office, or any others who, for the time being, are, in the opinion of my Trustees, entitled to hold the property of the said University (which Senatus and their foresaids are hereinafter referred to as the Permanent Trustees), to be held and applied by them for Bursaries in connection with the said University, to be called "The Crichton Bursaries," but subject always to the burden of payment by them of the foresaid annuity to my nephew, Robert Patrick, in the terms hereinbefore written, while, and so long as the same continues payable, and the creation of said annuity as such burden on the residue, when conveyed as aforesaid, shall discharge my Trustees hereby named of any liability therefor; and I hereby empower my Trustees hereby named, after consultation with the Permanent Trustees, to fix and determine the terms and conditions on which the said Bursaries shall be held, and to grant and execute such Deed or Deeds of Constitution as may be required for the purpose, in which Deed or Deeds of Constitution effect shall be given to the following Regulations with respect to the said Bursaries, viz.:—*First*, The whole free annual income of the estate and effects conveyed to the permanent Trustees shall be applied yearly and from year to year as near as may be in the payment of the said Bursaries. *Second*, Each Bursary shall be of the annual value of Fifty Pounds. *Third*, The Bursaries shall be open to Students in or entering the Faculty of Medicine of the University of Edinburgh who shall have been born in Scotland, and shall be tenable for four years, provided the Bursars continue Students of the Medical Faculty of such University. *Fourth*, The nominations to the Bursaries shall be determined by a Competitive Examination, and the Candidates who shall, in the opinion of the Examiners, most successfully pass in such Examination, shall be preferred. *Fifth*, The Examination shall be in the following subjects, viz.:—Latin, Greek, French, German, Mathematics, Logic, and Moral Philosophy. *Sixth*, Should any Bursar fail to attend the Classes in the Faculty of Medicine,

or to give regular attendance at such Classes, or to go up for the Examinations therein prescribed, or in the event of the gross misconduct of any Bursar, it shall be in the power of the Permanent Trustees to suspend him from, or to deprive him of, the Bursary at such period as they may resolve upon. *Seventh*, Any balance of annual income not applied in payment of such Bursaries shall be added to the capital of the estate held by the Permanent Trustees, in so far as not otherwise applied as hereinafter mentioned : moreover, if the Trustees hereby named should consider it advisable, it is my wish, and I authorise and empower them by the said Deed or Deeds of Constitution to make provision whereby a sum from year to year, not exceeding one-third of the free income of the estate, shall be withdrawn by the Permanent Trustees at such time and for such periods as they think advisable from the aforesaid Bursary fund, and be applied by such Trustees, and in sums of not more than One Hundred Pounds per annum, to any Student or Students of the said University who shall have been in attendance at the same for not less than four years, and who shall have taken the Degree of Bachelor of Medicine, to aid such Student for any period not longer than three years in the prosecution of any branch of medical study, either at the University of Edinburgh, or at any other University which the Permanent Trustees may approve of as likely to advance Medical Science, and to be paid only upon evidence satisfactory to them of such study having been regularly prosecuted ; the presentations to such last-mentioned Bursaries or Scholarships being determined by a competitive Examination in Medical subjects to be prescribed from time to time by the Permanent Trustees, and the Candidate or Candidates who shall most successfully pass such Examination being preferred thereto ; and I provide that no one person shall hold more than one of said Bursaries and Scholarships at a time ; and while I have stated the foregoing as the more essential of the regulations upon which the said Bursaries are to be given and held, I hereby give and commit to the Trustees hereby named full power, warrant, and authority by the foresaid Deed or Deeds of Constitution, to make all other regulations consistent with those hereinbefore written which they may consider requisite for carrying out the objects that I have in view ; and I provide that the Senatus Academicus of the said University shall, while they form the Permanent Trustees, be always subject to the control of the University Court acting in the manner provided in the Universities (Scotland) Act of the twenty-first and twenty-second years of the reign of her present Majesty, Caput Eighty-three, and Acts amending or yet to amend the same ; declaring that all powers, privileges, and duties committed to, or incumbent on, the Trustees herein named, shall be equally competent to, and incumbent on, the Permanent Trustees after the Trustees herein named divest themselves as aforesaid.

MILNER FOTHERGILL GOLD MEDAL.

THIS Indenture, made the thirteenth day of December, one thousand eight hundred and ninety, between Adelaide Beatrice Rubie Milner Fothergill of Huyton Quarry, Liverpool, England, widow, of the one part, and Sir William Muir, K.C.S.I., D.C.L., LL.D., the Principal of the University of Edinburgh, Scotland; Thomas Richard Fraser, M.D., the Dean of the Faculty of Medicine in the said University, and the said Thomas Richard Fraser, the Professor of Materia Medica in the said University (who, with the Trustees for the time being of these presents, are hereinafter called "The Trustees") of the other part; Whereas, the said Adelaide Beatrice Rubie Milner Fothergill, being desirous of founding a Gold Medal, in memory of her late husband, John Milner Fothergill, M.D., Edinburgh, M.R.C.P., London; Honorary M.D., Rush College, Chicago, United States of America; Associate Fellow of the College of Physicians of Philadelphia, United States of America; Senior Assistant Physician to the City of London Hospital for Diseases of the Chest; Author of the Practitioner's "Handbook of Treatment," "Diseases of the Heart, including the Gouty Heart," "Indigestion, Biliousness, and Gout," "Chronic Bronchitis," "Physiological Factor in Diagnosis," "Manual of Dietetics," "Vaso Renal Change, *versus* Bright's Disease," "The Town Dweller," and many other works both medical and lay, who was born at Morland, Westmoreland, on the 11th April 1841, and died in London on the 28th June 1888, has paid to the Trustees the sum of Three Hundred and Twenty Pounds, the receipt whereof they do hereby acknowledge (to which the following persons also subscribed, videlicet: Mr Fellows, twenty pounds; Mr J. Milner, five pounds; Mr Fothergill, five pounds; and Mrs Selby, five pounds). Now, it is hereby declared that the Trustees shall hold the said sum of Three Hundred and Twenty Pounds for ever hereafter in trust for the following purposes; that is to say:

1. The Trustees, parties to these presents, while holding their aforesaid appointments and the aforesaid Principal, Dean, and Professor for the time being, shall always be the Trustees of these presents.

2. The Trustees shall for ever hereafter invest the said moneys (hereinafter called the Trust Fund), in Trust Securities, sanctioned by the Law of Scotland, and shall with and out of the income of the invested fund, after first defraying thereout the expenses of the examination hereinafter referred to, cause a Gold Medal of the value of twenty pounds or less, if the available income is insufficient, to be struck from the dies which have heen handed by the said Adelaide Beatrice Rubie Milner Fothergill to the Trustees, to be called "The Milner Fothergill Medal in Therapeutics."

3. The Medal is to be awarded every two years to a Graduate of the said University who has been a Member of the Class of Materia Medica in such University, for an Essay which shall include a description of

original research made by the Candidate on a Pharmacological or Therapeutic subject, preference being given to a subject relating to Dietetics on the Report of the Professor of Materia Medica of such University for the time being, and of an Examiner to be appointed by the Faculty of Medicine of the said University for the time being.

4. In the event of no Essay being received for competition, or of no Essay being considered of sufficient merit to justify an award, it shall be in the option of the Trustees either to offer the Medal for competition the following year, or to decline to award it for the period of award.

5. Should the available income of the Trust Fund for two years be less than twenty pounds, then the value of the said Medal is to abate accordingly, and should there be any surplus income after providing for the said Medal, and the expenses of striking, or any surplus obtained by the Medal not having been awarded as hereinbefore mentioned, then such surplus is to be added to the Trust Fund in order that the Medal may in time if possible be given annually instead of every two years, or the Trustees may, in their absolute discretion, apply such surplus from time to time to any other object connected with the said University.—In Witness whereof, &c.

MAULE'S BURSARIES.

EXCERPT from Trust Disposition and Settlement by the Rev. THOMAS MAULE.

Fifthly, After the death of my said wife, or after my own death, if I shall have survived her, and in the event of there being no issue of the marriage between us, I direct and appoint my said Trustees to dispose of my whole estate, of whatever kind the same may be, in the following manner, viz.:—They shall, as soon as they have realised a sufficient part thereof, lay out and invest upon such security as they may deem proper, and that in name of the Principal of and Professors of Humanity and Greek in the University of Edinburgh for the time being and their successors in office, the major number being a quorum, so much of the residue of my whole estate as shall be necessary to provide the sum of Eighty Pounds sterling per annum, and that for the purpose of establishing four Bursaries in the College of Edinburgh, for the maintenance and education of the like number of poor and deserving Students in that College, and who shall be appointed as aftermentioned: Declaring that each of said Bursaries shall be of the annual value of twenty pounds sterling, and shall be called in all time after their establishment the "*Maule's Bursaries*:" And I do hereby appoint that the said Principal of and Professors of Humanity and Greek in the said College of Edinburgh for the time being shall be constant patron or patrons of the said Bursaries, and that they shall so soon after such sum being secured as aforesaid as conveniently may be, and thereafter from time to time as often as a vacancy may occur, nominate and appoint holders of the said Bursaries, and that after a trial of the respective merits of such of

the above mentioned Class of Students in said College as may choose to compete therefor, and which Examination shall be conducted by the said Professors of Humanity and Greek for the time being, and shall take place within the College at such time as may be fixed, but always after proper and timeous advertisement of such competition shall have been made, and each of the Students who may be nominated and appointed to said Bursaries shall be entitled to the said yearly sum of twenty pounds sterling, and that for the space of six years, if they shall continue so long to prosecute their studies at the said College, and if not, then for the whole space they shall so continue at the same. Declaring that each holder of a Bursary shall, on the first year of his holding the same, but on that year only, allow to be deducted from said sum of twenty pounds sterling the sum of two pounds two shillings sterling, and I appoint that said sum so to be deducted shall be paid to the said Professors of Humanity and Greek for the time being, each of them receiving the sum of one pound one shilling sterling as a small consideration for their trouble in conducting the said examination.

ROYAL COMMISSION FOR THE EXHIBITION OF 1851.

First Report of the Committee for Considering the Regulation and Distribution of the Science Scholarships.

The Committee have had their attention drawn to the fact that there is a large number of Scholarships in the country; that they are increasing at a rapid rate; and, if the Commissioners act on the same lines as those already occupied, it is possible that education will gain little by their action, as the endowment of the Commissioners may interfere with the establishment of new Scholarships by private liberality.

Hence it is desirable that the Scholarships with which this Committee have to deal should be of a higher order than most of those now existing; in fact, their functions should begin where the ordinary educational curriculum ends. This system has been adopted with excellent effects by the French *Ecole pratique des hautes études.*

THE COMMITTEE PROPOSE :—

1. That the Scholarships shall be of £150 a year in value, and shall be tenable for two years, but in rare instances may be extended to three years by special resolution of the Commissioners. The continuation, each year after the first, shall depend upon the work done in the previous year being satisfactory to the Scientific Committee which it is suggested shall be appointed by the Commissioners.

2. That the Scholarships shall be limited to those branches of science (such as physics, mechanics and chemistry) the extension of which is specially important for our national industries.

3. That the Commissioners shall from time to time select a certain

number of Provincial and Colonial Colleges in which special attention is given to scientific education, and give to each the power of nominating a student of not less than three years' standing to a Scholarship, on the condition that he indicates high promise of capacity for advancing science or its applications.

4. That the Commissioners shall appoint a Committee of advice, who will consider and report upon the reasons for which the nominations are made by the respective Colleges, and the Commissioners will appoint to the Scholarships upon the Report of their Committee.

5. That the Scholarships when awarded shall be tenable in any University either at home or abroad, or in some other Institution to be approved of by the Commissioners. The holder of a Scholarship must give an undertaking that he will wholly devote himself to the object of the Scholarship, and that he will not hold any position of emolument during its continuance.

(Signed) LYON PLAYFAIR *Chairman.*
WM. GARNETT.
T. H. HUXLEY.
J. NORMAN LOCKYER.
A. J. MUNDELLA,
HENRY E. ROSCOE.
WILLIAM THOMSON.

18 VICTORIA STREET, WESTMINSTER.
18th June 1890.

DONALD FRASER BURSARY IN THE PHYSICAL SCIENCES.

WE, a quorum of the Acting Committee of the Association for the Better Endowment of the University of Edinburgh, present at a duly constituted meeting specially called for the purpose of finally approving and executing the following Deed,—Considering that the late Doctor Donald Fraser, residing in London, in or before the year Eighteen hundred and seventy-nine, bequeathed to the Association the sum of One Thousand pounds in the following terms :—"To the Association for the Better Endowment of the University of Edinburgh I give One Thousand Pounds, the interest to accumulate until it produces Fifty Pounds a-year, and then to be appropriated as an Annual Bursary in the Physical Sciences, in such manner as the Association for the Better Endowment of the University of Edinburgh shall direct :" And further considering that in accordance with an Order of the Court of Chancery, of date Eighth November Eighteen hundred and eighty-two, Doctor Donald Fraser's Executors paid to the Association on Twenty-sixth May Eighteen hundred and eighty-three, the amount of his said Legacy, with interest thereon at the rate of four per cent. per annum from the date of the said Order, such sums amounting together to One Thousand and Eighty Pounds Seventeen Shillings and Sixpence : And further considering that on the Sixteenth day of January Eighteen hundred and eighty-four, the sum of One Thousand One Hundred and Fifty-two Pounds Eighteen Shillings and Fourpence was invested in the purchase,

on account of said Bursary, of One Thousand Pounds of the Debenture Stock of the London and North-Western Railway Company, in the names of John Christison, Writer to the Signet, Edinburgh, the Acting Secretary of the Association; John Cook, Writer to the Signet, Edinburgh; Robert Cameron Cowan, Chartered Accountant, Edinburgh, and the late Thomas Graham Murray, Writer to the Signet, Edinburgh, all Members of the Acting Committee of the Association, in trust for the Association, and that there is also now a balance of Two Hundred and Eleven Pounds Ten Shillings and Elevenpence of uninvested accumulated interest upon the said Fund: And further considering that at the Annual General Meeting of the Association, held on the thirty-first of January Eighteen hundred and ninety, the following resolution was adopted:—"That in order to bring Doctor Donald Fraser's bequest for an Annual Bursary in the Physical Sciences into operation at an earlier date than would be possible by the accumulation of Income till the Capital should yield Fifty Pounds a-year, as required by the terms of the bequest, a sum not exceeding One Hundred and Eighty Pounds of the funds of the Association applicable to permanent foundations be appropriated to raise the uninvested balance of the Donald Fraser Fund to Three Hundred and Fifty Pounds . . .": And further considering that proposed Conditions for the Fellowship were submitted to the Association by their General Committee in their Annual Report, of date Sixteenth January Eighteen hundred and ninety-one, and that the Association, at their Annual General Meeting on the Thirtieth of the said month, adopted the following Resolution:—"That the Conditions for the Donald Fraser Bursary in the Physical Sciences, recommended in the Annual Report of the General Committee, be approved: that the Acting Committee be instructed to ascertain, in accordance with Section 14A of the Constitution of the Association, if the University Court of the University—(which body is, by the Universities (Scotland) Act, 1889, now in the place of the Senatus Academicus in the ownership and management of the property and revenues of the University)—is willing to accept the Bursary on the said conditions; and that the Acting Committee be authorised, if the Bursary is accepted, to appropriate the Donald Fraser Fund, and all accumulated interest thereon, with such sum of the Funds of the Association applicable to permanent foundations as shall be necessary to raise the uninvested part of the Fund to the sum of Three Hundred and Fifty Pounds, to the foundation and endowment in the University of Edinburgh of a Bursary to be called 'The Donald Fraser Bursary in the Physical Sciences,' by preparing and adjusting a Deed of Foundation and Endowment thereof containing the said Conditions, and such other Conditions consistent therewith, as they may think advisable, and by delivering to the University Court therewith the said Fund or the security in which, or any part of it, is invested, for the Foundation and Endowment of the said Bursary; the said Deed of Endowment to be signed by the Members of the Acting Committee, present at a duly constituted meeting,

summoned for the purpose of finally approving and signing the Deed." And further considering that the said Acting Committee accordingly communicated the conditions for the said Bursary, as detailed below, to the said University Court, and made offer of the Bursary to them on the said conditions, and that the said University Court, by letter dated the seventeenth day of April Eighteen hundred and ninety-one, under the hand of their Secretary, expressed their readiness to accept the same on the said conditions: Therefore, we do hereby give and mortify the said sum of One thousand one hundred and fifty-two pounds, eighteen shillings, and four pence, invested in Debenture Stock of the London and North-Western Railway Company as aforesaid, and the said sum of Two hundred and eleven pounds, ten shillings and eleven pence, being balance of the accumulated interest on the sum bequeathed by Dr Donald Fraser, with the interest due at this date on the said Debenture Stock and balance, and the sum of One hundred and thirty-eight pounds, nine shillings, and one penny of the Funds of the Association, applicable to permanent foundations, to the said University Court of the University of Edinburgh, for behoof of the said University, and we direct the said holders of the said Debenture Stock to transfer the same to the said University Court, all for the foundation and endowment of an Annual Bursary in the Physical Sciences therein, under the following Conditions, namely:—*First*, The said Bursary shall bear the name of "The Donald Fraser Bursary in the Physical Sciences." *Second*, The Patronage of the said Donald Fraser Bursary shall belong to the Senatus Academicus of the said University. *Third*, The Bursary shall be awarded for high merit in the University Class of Natural Philosophy, combined with proficiency in Laboratory work. *Fourth*, The Bursary shall be awarded by selection, in such way as the said Senatus Academicus shall from time to time determine. *Fifth*, The said Senatus Academicus shall have power, if they consider that on any occasion of a vacancy there is no Candidate of sufficient merit, not to make any award on that occasion. *Sixth*, The Bursar shall give assistance in the University Physical Laboratory, and engage in research there. *Seventh*, The Bursary shall be tenable for one year only. *Eighth*, Each holder of the Bursary shall, during his tenure thereof, be paid the free income of the Fund for his year of tenure, at such term or terms as shall from time to time be fixed by the University Court. *Ninth*, If, for any period, the said Bursary shall be vacant, the interest or proceeds for the vacant period shall be available for giving a second Bursary in any year in which the Patrons may consider that there is a second Student of equal or nearly equal merit with the Bursar of the year; or if the Patrons think it more desirable, such income may be added to the capital, and the interest accruing upon any such addition to the capital shall be payable to the persons thereafter appointed to the Bursary. *Tenth*, It shall not be competent for any person to hold the said Bursary along with any other Fellowship, Scholarship, or Bursary, in

any Scottish University; and the right of any person appointed to the said Scholarship shall terminate on his obtaining and accepting any such other Fellowship, Scholarship, or Bursary, and it shall then be in the power of the said Senatus Academicus to make a new appointment. *Eleventh*, In case of what the Senatus Academicus shall consider gross misconduct on the part of any holder of the Bursary, they shall have power to suspend him from, or deprive him of, the Bursary, subject to an appeal to the University Court, if taken within eight days; but, in the meantime, the decision of the Senatus Academicus shall have effect from its date. *Twelfth*, The said University Court shall have power to lay out and invest the said mortified sum, and all accumulations of interest thereon, on such investments as may be allowed by law for Trust Funds in Scotland. *Thirteenth*, It shall be lawful for the said University Court, by a Regulation passed under the powers contained in Section XII. 2 of the Universities (Scotland) Act, 1858, to alter the conditions hereof, with exception of the *First* and *Seventh*. *Fourteenth*, Any Expenses attending this Deed and the transfer of the said stock shall be paid out of the Interest now current on the said Debenture Stock and Balance of Accumulated Interest: And we consent to Registration hereof for Preservation.—In witness whereof.

Dated 28th April 1891.

Benefactors of the University.

THE Revenues of the University were formerly scanty and very inadequate for the encouragement of the higher education and learning in the Scottish metropolis. Scholarships and Fellowships were unknown prior to those recently instituted, and the emoluments of several of the Chairs are still greatly inferior to those in many other Universities.

During the early period of its history, the University received a considerable number of small donations and bequests, chiefly for Bursaries. Notices of these will be found in the preceding pages, in the Histories of the University by Bower, Dalzel, and Grant, and in the Report of the Universities' Commissioners in 1830. A list of early Benefactors to the Library is given at p. 49.

By Act 1 & 2 Vict., cap. 55, the various sums of money mortified in the hands of the Town Council for the support of the University, amounting to £13,119, were discharged, and an annual payment of £2500 (since reduced to £2170), secured upon the revenues of Leith Docks, is assigned to the University for the purposes of these bequests.

Within the present century, but especially since the year 1860, many donations and bequests have been made for Fellowships, Scholarships, and Bursaries, for the endowment of Chairs, and for the New Buildings, which will shortly be completed by the erection of the noble "M'Ewan Hall." As the University, however, is still in many respects very inadequately endowed, much still requires to be done in order that it may not fall behind the requirements of the age. It is therefore hoped that the generosity of future donors will remedy this defect, and be directed towards the improvement of the Library, the augmentation of the General Fund, and various other academical purposes. Intending Benefactors are respectfully

reminded that additional Chairs, Lectureships, Supplementary Endowments for existing Chairs and Lectureships, Scholarships for many branches of scientific research, and contributions to the University Fund for general purposes, besides ordinary Bursaries and Prizes, are still urgently required. The wishes of Donors and Testators are in every case scrupulously observed, and their names, if so desired, may always be connected with any Benefaction they may bestow. Such Benefactions may simply be conveyed to the "University of Edinburgh," and full powers of ordinary administration should be conferred upon the University authorities. All necessary information will be gladly afforded by the Office-bearers of the University. The following list includes the chief Benefactors of the present century, together with the purposes of their benefactions.[1] :—

(A.)—*Founders of Bursaries in the present Century.*

Rev. J. STEWART, South Carolina—Founder of the Stewart Bursaries.

Sir JOHN M'PHERSON, late Governor-General of India—Founder of the M'Pherson Bursary.

Rev. R. BLAIR, D.D.—Founder of the Blair Bursaries in Arts and Theology,

J. STEWART HEPBURN, Esq. of Colquhalzie—Founder of three Theological Bursaries.

JOHN JAMIESON, Esq., Edinburgh—Founder of the Jamieson Bursary.

GEORGE PARKER BIDDER, Esq.—Founder of the Jardine Bursary.

WILLIAM LENNIE, Esq., Teacher, Edinburgh—Founder of the Lennie Bursaries.

JOHN BRUCE, Esq., Trinity Crescent, Edinburgh—Founder of the Bruce Bursaries.

M'DIARMID TESTIMONIAL TRUSTEES—Founders of the M'Diarmid Bursary.

W. PATRICK, Esq. of Roughwood—Founder of the Patrick Bursaries.

JAMES GRAY, Esq. of Baadpark—Founder of the Gray Bursaries.

[1] An Association exists for the purpose of promoting—1st, The Foundation of Scholarships and Fellowships for the encouragement of the higher learning among the more advanced Students; 2d, The better Endowment of existing Chairs; 3d, The Foundation of new Professorships; and 4th, Other University objects.

The Chancellor of the University is President of this Association; the Hon. Secretary is (*vacant*); and the Acting Secretary is John Christison, Esq., W.S., 40 Moray Place, Edinburgh.

EDINBURGH CAITHNESS ASSOCIATION—Founders of a Bursary.

EDINBURGH GALLOWAY ASSOCIATION—Founders of a Bursary.

AYRSHIRE CLUB—Founders of two Bursaries.

PEEBLES-SHIRE SOCIETY—Founders of a Bursary.

Dr ABERCROMBIE, Cape Town—Founder of a Bursary.

Mrs MARGT. TYNDALL BRUCE of Falkland—Founder of three Bursaries.

TRUSTEES of FRANCIS J. SCOTT, Esq. of Mount Lodge, Portobello—Founders of two Bursaries.

Miss HANNAH HARRISON of Lasswade—Founder of a Bursary.

Miss MARY ETTLES of Inverness—Founder of three Bursaries, and the "Ettles Medical Scholarship."

TRUSTEES of the Rev. JOHN SPENCE, Minister of Kinnaird—Founders of two Bursaries.

JOHN ROBERTSON SIBBALD, M.D.—Founder of Five Bursaries.

ARGYLLSHIRE, BUTE, and WESTERN ISLES ASSOCIATIONS—Founders of a Bursary.

SUBSCRIBERS to MEMORIAL to ROBERT STEWART, Esq. of Ardvorlich—Founders of a Bursary.

THE EDINBURGH BORDER COUNTIES ASSOCIATION—Founders of two Bursaries.

THE RIGHT HON. THOMAS, EARL OF ZETLAND—Founder of the Orkney and Zetland Bursary.

TRUSTEES OF JAMES GRIERSON, OF OGSCASTLE—Founders of the Grierson Bursaries.

TRUSTEES OF DR MACKIE, Leith—Founders of Mackie Bursaries.

TRUSTEES of J. CAIRNS, Esq., W.S.—Founder of the Cairns Bursary.

TRUSTEES OF MRS JOHNSTONE of Harthope, Moffat—Founders of the Johnstone of Harthope Bursary,

TRUSTEES OF JAMES LAMBERT, Esq., Alloa—Founder of the Lambert Bursary.

ROBERT MARSHALL, Esq., Merchant, Edinburgh—Founder of the Marshall Bursary.

JOHN FOTHRINGHAM, Esq. of Heathpool—Founder of the Fothringham and Forrest Bursaries.

Right Hon. LAWRENCE, EARL OF ZETLAND—Founder of the Zetland Bursaries.

ANDREW THOMSON, M.D.—Founder of Eight Bursaries in Arts, Divinity, Law, and Medicine.

EDINBURGH EAST LOTHIAN ASSOCIATION—Founders of a Bursary in Arts.

EDINBURGH UNIVERSITY ENDOWMENT ASSOCIATION—Founders of Six Bursaries in Arts.

Mrs ISABELLA WEBSTER—Founder of the Webster Bursaries in Divinity.

Dr JOHN AITKEN CARLYLE—Founder of two Bursaries in the Faculty of Medicine.

Mrs ELIZABETH MACKENZIE—Founder of the Mackenzie Bursaries.

Dr JOHN MUIR—Founder of a Classical Bursary.

TRUSTEES OF MRS BARBARA MACAULAY OR MYLNE—Founders of a Bursary in Divinity.

TRUSTEES OF REV. JOHN PATTERSON—Founders of a Bursary in Anglo-Saxon Grammar and Literature.

THOMAS CARLYLE—Founder of the John Welsh Bursaries in Mathematics and Classics.

Mrs HELEN ANDERSON or RONALD, Liverpool—Founder of the Anderson Bursaries.

SUBSCRIBERS to Testimonial to W. MACKINNON, Esq. of Balinakill —Founders of the Mackinnon Bursaries.

TRUSTEES of JAMES WHITELAW—Founders of Whitelaw Bursaries.

TRUSTEES of WILLIAM RENTON, Esq.—Founders of a Bursary in Divinity, and one in Arts.

Miss ISABELLA MACDOUGALL, Perth—Founder of the John and Isabella Macdougall Bursaries.

ROBERT HUNTER, Esq., Dalhousie Chesters—Founder of two Bursaries in Divinity.

ROBERT PILLANS NEWTON of Castlandhill and Drumcross—Founder of the Newton Bursaries.

PETER CAMPBELL MANN of Seaham Harbour, Durham—Founder of a Bursary.

CHARLES JARDINE of Thorlieshope—Founder of Bursaries in Arts.

ISAAC ANDERSON HENRY—Founder of the Anderson Henry Prize.

Mrs H. E. MORISON—Founder of the Mackenzie (Stornoway) Bursary.

DANIEL MACLAURIN, Esq.—Founder of the Maclaurin Bursary.

THOMAS LOCKERBY, Esq.—Founder of the Lockerby Bursary.

GEORGE COUSIN, Esq.—Founder of the "Bailie Cousin Bursary."

THOMAS HILL PATTISON, M.D.—Founder of a Bursary.

Major ROBERT ORR CRICHTON—Founder of the Crichton Bursaries.

Rev. THOMAS MAULE—Founder of Maule's Bursaries.

Mrs A. B. R. MILNER FOTHERGILL of Hayton Quarry—Founder of the Milner Fothergill Gold Medal in Therapeutics.

DONALD FRASER, M.D., London, and ASSOCIATION for the BETTER ENDOWMENT of the UNIVERSITY—Founders of the Donald Fraser Bursary in Experimental Physics.

SUBSCRIBERS TO MEMORIAL TO PROFESSOR KELLAND—Founders of Kelland Memorial Prize.

(B.)—*Founders of Scholarships or Fellowships in the present Century.*

THE PITT CLUB—Founders of two Scholarships, one in Arts and one in Divinity.

JAMES MACKENZIE, Esq., W.S.—Founder of Mackenzie Scholarship.

ALEX. HENRY RHIND, Esq. of Sibster—Founder of the Rhind Scholarships and Bursaries.

Sir DAVID BAXTER, Bart., of Kilmaron—Founder of the Baxter Scholarships in Arts and Sciences.

Sir WILLIAM FETTES, Bart.—Founder of the Fettes Exhibitions.

JOHN MAXTON, Esq.—Founder of a Divinity Scholarship.

Miss ELIZABETH DRUMMOND—Founder of the Drummond Scholarship.

Mrs MARGARET TYNDALL BRUCE—Founder of three Scholarships.

JAMES GUTHRIE, Esq., of London—Founder of the Guthrie Fellowship.

SUBSCRIBERS to HAMILTON MEMORIAL FUND, and ASSOCIATION for the BETTER ENDOWMENT of the UNIVERSITY—Founders of a Philosophical Fellowship.

ASSOCIATION for the BETTER ENDOWMENT of the UNIVERSITY—Founders of a Classical Fellowship.

TRUSTEES of Dr J. H. GILCHRIST—Founders of three Scholarships for Natives of India.

JOHN ROBERTSON SIBBALD, M.D.—Founder of a Medical Scholarship.

Miss MARY BAXTER, of Balgavies—Founder of a Scholarship.

SUBSCRIBERS to FALCONER MEMORIAL FUND—Founders of a Fellowship.

SUBSCRIBERS to SYME FELLOWSHIP—Founders of a Fellowship in the Medical Faculty.

SUBSCRIBERS to GOODSIR MEMORIAL—Founders of a Prize and eventually a Fellowship in the Medical Faculty.

TRUSTEES OF Mrs CHARLES MACLAREN—Founders of the Charles Maclaren Scholarship.

Subscribers to Glover Memorial Fund, and Association for the Better Endowment of the University—Founders of the "Glover Divinity Scholarship."

Mrs M. Arnott, Widow of Neil Arnott, M.D.—Founder of the "Neil Arnott Scholarship for Experimental Physics."

John Edward Baxter, Esq. of Craigtay, bequeathed the residue of his estate, out of which three Scholarships named after him have been founded by the University Endowment Association.

The Rev. David Aitken, D.D., formerly Minister of Minto—Founder of the Aitken Scholarship.

David Skirving, Esq., of 13 Westbourne Park, London—Founder of the Skirving Scholarship for Moral Philosophy.

Andrew Thomson, M.D.—Founder of a Scholarship.

Misses Kidd of Woodhouse—Founders of the David Kidd Divinity Scholarship.

Dr R. H. Gunning of Rio Janeiro—Founder of two Scholarships and a Fellowship in the Faculty of Divinity, and of eleven Prizes in the Faculty of Medicine.

Dr T. Leckie—Founder of the Leckie-Mactier Scholarship.

Subscribers to Memorial of Dr Coldstream—Founders of the Coldstream Memorial Medical Missionary Scholarship.

Mrs James Buchanan—Founder of a Scholarship in Midwifery and Gynecology.

Dr Andrew Vans Dunlop, H.E.I.C.—Founder of the Vans Dunlop Scholarships in Arts, Law, and Medicine.

Misses Steven of Bellahouston—Founders of a Scholarship in Agriculture.

Subscribers to Memorial of Dr Charles Murchison—Founders of the "Charles Murchison Scholarship."

Mrs Mary Ann Scott or Thomson of Hawick—Founder of the James Scott Scholarship in Midwifery.

Robert Mackay-Smith, Esq., Edinburgh—Founder of the Mackay-Smith Scholarships in Natural Philosophy and Chemistry.

Dr Frederick John Mouat—Founder of the Mouat Scholarship in Practice of Physic.

Dr John Stark, Auchtermuchty—Founder of the Stark Scholarship in Clinical Medicine.

Mrs Kidd—Founder of "James Fairbairn's Scholarship."

Miss Jane Jeffrey—Founder of the Jeffrey Scholarships.

Dr A. H. Freeland Barbour—Founder of the Freeland Barbour Fellowship.

Miss MATILDA JOHNSTON COBB—Founder of the Cobb Divinity Scholarship.

(C.)—*Founders of New Chairs, Contributors of Endowments to existing Chairs, or of Money, &c., to the University Funds, Library, &c., within the present Century.*

General JOHN REID—Founder of the Theory of Music Chair, who also bequeathed money to the Funds of the University.

General Sir JOSEPH STRATON—Bequest to the University Funds.

Sir JAMES ERSKINE, of Torry, bequeathed Pictures, Bronzes, and Marbles to the University. [Lent to the National Gallery.]

Sir WILLIAM PULTENEY—Founder of the Chair of Agriculture.

Dr WILLIAM THOMSON—Founder of the Thomsonian Lectureship in Mineralogy.

Dr THOMAS CHARLES HOPE, late Professor of Chemistry—Founder of the Hope Prize.

Sir GEORGE BALLINGALL, late Professor of Military Surgery—Presented his Library to the University.

Dr W. P. ALISON, late Professor of the Theory of Medicine—Presented his Medical Books to the University.

JOHN MUIR, D.C.L., LL.D., Edinburgh—Founder of Sanskrit Chair.

Mrs MARGARET TYNDALL BRUCE—Founder of Prize in Logic Class.

DANIEL ELLIS, Esq.—Founder of "The Ellis Prize" in the Faculty of Medicine.

JOHN EDWARD BAXTER, Esq., of Craigtay, bequeathed the reversion of his Estate for the purpose of founding Scholarships, etc.

Sir DAVID BAXTER, Bart., of Kilmaron—Founder of the Chair of Engineering.

DAVID COWAN, Esq., of Auchendrane, bequeathed £1000 to the Association for Promoting the Endowment of the University.

Dr NEIL ARNOTT gave £1000 for Promoting the Study of Experimental Physics among the Medical Students of the University.

Si RODERICK IMPEY MURCHISON gave £6000 for the Endowment of the Chair of Geology.

J. O. HALLIWELL PHILLIPPS, Esq., presented his valuable Shakespearean Collection to the University.

ROBERT COX, Esq., W.S., bequeathed £5000 for general purposes and for completing the Dome of the University buildings.

Signor THEOPHILE BUCHER bequeathed his Music Library to the Chair of Music, and reversion of estate to found Scholarships in Music.

THE MERCHANT COMPANY OF EDINBURGH, and other Governors of George Watson's and Daniel Stewart's Hospitals—Founders of the Chair of Political Economy and Commercial Law.

Mr HENRY G. and Miss FRANCES WATSON—Donors of Fund for the "Watson-Gordon Professorship of Fine Art." The Deed of Foundation will be found in CALENDAR for 1873-74, p. 320.

Sir D. BAXTER, of Kilmaron, bequeathed £20,000 for the Extension of the University buildings, and £20,000 for the Further Endowment of the Chairs in the Faculty of Arts.

Miss BROWN, of Lanfine, presented a portion of the Minerals and Fossils which belonged to her father—to be called "The Waterhaugh Collection."

Rev. HEW SCOTT of Wester Anstruther—Founder of the Scott and Dunbar Prize in Greek.

JOHN WILSON, Esq. of South Bantaskine—Founder of the Robert Wilson Prize in Chemistry.

Mrs E. WIGHTMAN—Founder of the Wightman Prize in Clinical Medicine.

THE BELL TRUSTEES, who gave £6000 for the Endowment of the Bell Chair of the Theory, History, and Practice of Education. (Endowment increased in 1886 by £4500, added by Educational Endowments Commission.)

JOHN B. BAILLIE, who transferred the collection of Arabic MSS., formed by Lieut.-Col. Baillie of Leys, to the University Library.

JAMES GEORGE BEANEY, Esq.—Founder of the Beaney Prize.

ANDREW ROBERTSON CAMERON, M.D., of Richmond, New South Wales—Founder of the Cameron Prize.

Dr DAVID LAING, bequeathed his MSS. to the University Library.

Mrs HODGSON, presented Works on Political Economy, collected by her late husband, Prof. Hodgson, to the University Library.

Dr VANS DUNLOP bequeathed £3000 to the General Fund of the University.

SUBSCRIBERS to the CELTIC CHAIR, by whom a fund of £14,000 was raised for the endowment of this Chair by the exertions of Professor Blackie.

Miss MARY DICK bequeathed a moiety of the residue of her estate to accumulate for twenty-one years from 1883, or till it shall amount to £10,000, for the Foundation of a Chair of Comparative or Surgical Anatomy, as considered most to be required.

SUBSCRIBERS of £500 and upwards to the "UNIVERSITY OF EDINBURGH BUILDINGS EXTENSION SCHEME":—[1]

The late Sir David Baxter of Kilmaron, Bart., by bequest, less Legacy Duty,	£18,000	0	0
William M'Ewan, Esq., M.P.,	6,500	0	0
The late Duke of Buccleuch and Queensbery, K.G., D.C.L., LL.D.,	4,000	0	0
The Magistrates and Council of the City of Edinburgh,	3,100	0	0
The Right Hon. the Earl of Moray,	2,525	0	0
The Right Hon. The Earl of Rosebery, LL.D.,	2,400	0	0
The Royal College of Physicians of Edinburgh,	1,575	0	0
The Right Hon. the Earl of Stair, K.T.,	1,500	0	0
Messrs John Jeffrey & Co.,	1,500	0	0
The late J. Fulton, Esq., Clinton Road,	1,150	0	0
Charles Andrew Aitchison, Esq., Queen Street,	1,050	0	0
The Most Hon. the Marquis of Bute,	1,000	0	0
Andrew Carnegie, Esq., New York and Pittsburg,	1,000	0	0
The Right Hon. the Earl of Derby,	1,000	0	0
J. R. Findlay, Esq., Rothesay Terrace,	1,000	0	0
The Right Hon. The Earl of Home,	1,000	0	0
The Right Hon. The Earl of Hopetoun,	1,000	0	0
The late Sir William Stirling-Maxwell of Pollok and Keir, Bart., LL.D., M.P.,	1,000	0	0
The Right Hon. The Earl of Wemyss and March, LL.D.,	1,000	0	0
The Right Hon. the Lord Justice-General, D.C.L., LL.D., Chancellor of the University,	800	0	0
Messrs Thomas Nelson & Sons,	800	0	0
The late Henry George Watson, Esq., C.A.,	800	0	0
The Most Hon. the Marquis of Lothian,	750	0	0
The Society of Writers to the Signet,	750	0	0
J. Lindsay Bennet, Esq., Taviton Street, London,	710	0	0
James Cowan, Esq., Royal Terrace,	700	0	0
Robert Richardson, Esq., Bruntsfield Place,	700	0	0
C. Morrison, Esq. of Islay,	700	0	0
C. Jenner, Esq.,	650	0	0
The late David Anderson, Esq., of Moredun,	600	0	0

[1] See Statement of Funds in Calendar, 1889-90, Appendix, p. 22.

James H. Renton, Esq., Park Lane, London,	£600	0	0
Professor Sir W. Turner, LL.D.,	600	0	0
The Most Hon. The Marquis of Hartington,	500	0	0
Charles Cowan, Esq., of Logan House,	500	0	0
T. R. Buchanan, Esq., M.P.,	500	0	0
P. D. Swan, Esq., Provost of Kirkcaldy,	500	0	0
Lady Campbell of Garscube,	500	0	0
The late William Cumming, Esq., M.D., Ainslie Place,	500	0	0
The late James T. Gibson-Craig, Esq., York Place,	500	0	0
Professor Crum Brown,	500	0	0
The Goldsmiths' Company of London,	500	0	0
W. Mackinnon, Esq., of Balinakill and Loup,	500	0	0
The late Graham Menzies, Esq. of Hallyburton,	500	0	0
John Graham Menzies, Esq., Grosvenor Crescent,	500	0	0
W. D. Menzies, Esq., Grosvenor Crescent,	500	0	0
The late Miss Trail, Aberlady, by bequest,	500	0	0
Messrs William Younger & Co., Abbey Brewery,	500	0	0
The Right Hon. The Earl of Zetland,	500	0	0
Anonymous,	500	0	0

The total amount of subscriptions received was £149,048, 2s. 5d.

EARL OF ROSEBERY provided £50 a year for Lectureship on Philosophy of Natural History for five years.

WILLIAM F. CUMMING, M.D., presented a Drinking Fountain, erected in the Quadrangle of the Old Buildings, in 1886.

JOHN HOPE, W.S., presented a Drinking Fountain to the University New Buildings, 1886.

ALEX. GIBSON, Esq., Advocate, bequeathed £2000, free of legacy-duty, to the General Fund of the University.

WILLIAM M'EWAN, Esq., M.P., founder of the M'Ewan University Hall. *See* end of Appendix.

ADAM GIFFORD, Senator of the College of Justice, bequeathed £25,000 for the foundation of a Lectureship for promoting, advancing, teaching, and diffusing the study of Natural Theology in the widest sense of that term.

JOHN FULTON, Esq., bequeathed £3000 to General University Fund, the greater part of which has been devoted to the equipment of the new Engineering Laboratory, called the "Fulton Laboratory."

Miss ELIZABETH STEVEN, of Bellahouston—Founder of the Steven Lectureship in connection with the Chair of Agriculture.

Bequests and Donations during 1890-91.

Bequests.

Bequest by the late George Cousin, Surveyor in Edinburgh, of £800 to found a Bursary in the Faculty of Arts.

Bequest by Rev. Thomas Maule, of four Bursaries in Faculty of Arts of £20 each.

Bequest by Donald Fraser, M.D., London, supplemented by the Association for the Better Endowment of the University, £1502, 18s. 4d., to found the Donald Fraser Bursary in Experimental Physics.

Donations.

£2000 by Miss Elizabeth Steven, of Bellahouston, to found the Steven Lectureship in connection with Chair of Agriculture.

Anonymous donation of £1000, "for behoof of proposed Endowment of Education in Forestry in connection with the Edinburgh University, by the institution of a separate Chair or Lectureship."

£320 by Mrs Milner Fothergill, for the foundation of a Gold Medal for Therapeutics.

£147, 10s. by Subscribers to found Kelland Memorial Prize.

Donations to Library.

Besides various valuable contributions from the Governments of Great Britain, the Argentine Republic, Bengal, Burmah, Canada, France, India, Italy, New South Wales, New Zealand, Norway and Sweden, Russia, Victoria, &c., the University Library has in the course of the year 1890-91 received Donations from the following Universities:—Aberdeen, Aix-la-Chapelle, Andover, Basle, Birmingham, Bologna, Bombay, Budapest, Buenos Aires, California, Christiania, Cornell, Dundee, Glasgow, Groningen, Greifswald, Harvard, Heidelberg, Johns Hopkins, Kiel, Königsberg, Lahore, Leyden, Madras, Madrid, Manitoba, New York, Rome, Rostock, Tokio, Toronto, Turin, Utrecht, Venezuela, Warsaw, Yale, Zaragoza. Many other public institutions at home and abroad have also sent their publications:—The Royal Society of Edinburgh; the Royal Scottish Geographical Society, Edinburgh; the Society of Scottish Antiquaries; the Royal Observatory, Edinburgh; the Physical Society, Edinburgh; the Signet Library, Edinburgh; the Public Library, Edinburgh; the Church of Scotland Offices, Edinburgh; the Fishery Board for Scotland; the Glasgow Archæological Society; the Royal Irish Academy; the British Museum; the Science and Art Department, South Kensington; the Astronomical Society, London; the Greenwich Observatory; the Guild Hall Library; the Musical Association, London; the Birmingham Philosophical Society; the Musée Guimet; the Smithsonian Institution; the United States National Museum; the Museum of Comparative Zoology, Harvard; the Royal Society, Victoria; the Australian Museum, Sydney; the New Zealand Institute; the Canadian Institute; the Geological Survey of the United States; the Geological Survey of Minnesota; the

Geological Survey of India; the Geological Survey of Canada; the Archæological Survey of India; the Archæological Survey of Mysore; the Medical and Physical Society of Bombay; the Norwegian Commission der europäischen Gradmessung, &c., &c.

Among the numerous private donors to whose liberality the Library has been indebted may be mentioned :—

The Prince of Monaco—Documents historiques rélatifs à la Principauté de Monaco.
The Earl of Home—The Letters and Journals of Lady Mary Coke.
The Marquess of Lothian—The Genus Masdevallia.
Lady Elizabeth Leslie Melville Cartwright and Mr Melville Cartwright —The History of the Melvilles.
Professor Balfour—A large number of Pamphlets.
Professor Oakeley—Various Musical Compositions.
Professor Wallace—A Statistical Atlas of India, and numerous Pamphlets relating to Agriculture.
Professor Luigi Bodio—Bulletin de l'Institut international de Statistique, and numerous Statistical Works in Italian.
Messrs Macmillan & Co.—Various Editions of the Classics, &c.
Messrs A. & C. Black—Various Works of Reference.
Messrs W. & R. Chambers—Chambers' Encyclopædia.
Messrs Cassell—A General Atlas.
Mr Clode—History of the Merchant Taylors Company.
Dr Martineau—Several of his recent Works.
Dr Hutchison Stirling—The first (Edinburgh) Gifford Lectures.
Dr Schübeler—Viridarium norvegicum.
Pratapa Chandra Ray—The Mahabharata.
Mr L. Fletcher—Papers on Crystallography, Meteorites, &c.
Mr Mackenzie—An Introduction to Social Philosophy.
Dr M. C. Hime—An Introduction to the Latin Language.
Mr C. G. Petersen—Det videnskabelige udbytte af Kanonbaaden "Hauchs" togter.
Dr Bateman—On Aphasia.
Dr Saundby—On Diabetes.
Mr Traill—Algæ at Dunbar, &c.
Rev. W. D. Walker—La Maffia, and La Camorra, by Guiseppe Alonzi, &c.
The Editors of the University Medical Magazine, Philadelphia—The Magazine.
Mr Charles Holland Warne—Ancient Dorset: The Celtic, Roman, Saxon, and Danish Antiquities of the County, including the Early Coinage. Illustrated with plates and woodcuts. By Charles Warne.

Abstract of Accounts of the University

FOR THE YEAR ENDING 30TH AUGUST 1890.

—o—

ANNUAL SALARIES (EXCLUSIVE OF CLASS FEES) ATTACHED TO THE OFFICE OF PRINCIPAL, AND TO THE PROFESSORSHIPS, ASSISTANTSHIPS, AND EXAMINERSHIPS IN THE UNIVERSITY, BY ORDINANCE OF UNIVERSITIES COMMISSIONERS AND SUBSEQUENT DEEDS OF FOUNDATION.

PRINCIPAL.

Salary (besides Official Residence), - £1000 0 0

FACULTY OF ARTS.

	Salaries of Professors.	Salaries of Assistants.	Allowances for Class Expenses.
Humanity	£239 5 0	£100 0 0	.....
Mathematics	250 1 8	100 0 0	.....
Greek	238 19 4	100 0 0	.....
Logic and Metaphysics	305 14 8	.....	.....
Moral Philosophy	305 14 8	.....	.....
Natural Philosophy	271 4 6	100 0 0	£100 0 0
Rhetoric and English Literature	269 0 2	.....	.....
History	167 5 0	.....	.....
Practical Astronomy[1]	317 5 0	.....	.....
Agriculture	367 5 0	.....	.....
Music	437 5 0	200 0 0	100 0 0
Sanskrit	459 15 11	.....	.....
Engineering	400 0 0	.....	28 0 0
Geology	404 10 2	.....	37 8 8
Political Economy	467 5 0	.....	50 0 0
Class Prizes in do.,			24 0 0
Education	382 6 2	.....	.....
Fine Art	441 3 4	.....	40 8 2
Celtic Chair	549 19 8	.....	.....

FACULTY OF DIVINITY.

Divinity (present value)	£426 2 2	.....	.....
Hebrew	300 0 0	.....	.....
Church History	350 0 0	.....	.....
Biblical Criticism (present value)	630 0 0	.....	.....

[1] The Professor is also Astronomer Royal.

FACULTY OF LAW.

	Salaries of Professors.	Salaries of Assistants.	Allowances for Class Expenses.
Public Law	£400 0 0	.....	.....
Civil Law	250 0 0	.....	.....
History	(See under Faculty of Arts.)		
Scots Law	100 0 0	.....	.....
Medical Jurisprudence	(See under Faculty of Medicine.)		
Conveyancing	105 0 0	.....	.....
Political Economy	(See under Faculty of Arts.)		

FACULTY OF MEDICINE.

Botany[1]	£200 0 0	.....	.....
Institutes of Medicine	150 0 0	.....	.....
Practice of Physic	100 0 0	.....	.....
Anatomy	.....	£150 0 0	£50 0 0
Chemistry	200 0 0	200 0 0	100 0 0
Midwifery	100 0 0	.....	.....
Natural History	195 15 2	.....	.....
Materia Medica	100 0 0	25 0 0	50 0 0
Clinical Surgery	100 0 0	.....	.....
Medical Jurisprudence	100 0 0	25 0 0	35 0 0
Surgery	100 0 0	.....	.....
General Pathology	100 0 0	.....	.....

In addition to the permanent allowances for Assistants and Class Expenses entered above,—annual grants for the same purposes are made by the University Court from the General University Fund. The amount for 1889-90 was :—

For Assistants,	£1,365 0 0
For Class Expenses,	214 0 0
	£1,579 0 0

ADDITIONAL EXAMINERS FOR DEGREES.

		Salaries.
In Arts	Classical Literature	£120 0 0
	Mental Philosophy	120 0 0
	Mathematics	120 0 0
	Schoolmaster's Diploma	6 6 0
In Medicine—13 Examiners at £75		975 0 0
In Divinity—2 Examiners, each £26, 5s.		52 10 0
In Law—2 Examiners, a share of Fees up to £26, 5s. each		52 10 0
In Science—one Examiner in Civil Engineering		6 6 0
In Agriculture—4 Examiners at £6, 6s. each		25 4 0

[1] This includes £100 formerly paid to the Regius Keeper of the Botanic Garden.

SUMMARY,
INCLUDING ANNUAL GRANTS BY UNIVERSITY COURT.

	Salaries.
Principal - - - - - -	£1,000 0 0
Chairs in the Four Faculties - - - -	10,280 17 7
Assistants - - - - - -	2,363 15 0
Examiners in Arts, Medicine, Divinity and Law[1] -	1,474 13 0
Allowances for Class Expenses - - -	802 16 10
	£15,922 2 5

STATEMENT
SHOWING THE CAPITAL OF THE UNIVERSITY IN 1890, AND INCOME AND EXPENDITURE FOR THE YEAR 1889-90.

The University is maintained—1. By interest, &c., accruing from Capital Funds in charge of the University Court; 2. by Annual Payments made from Crown and Parliamentary Grants, and from an annuity payable by Act of Parliament out of the Revenues of the Harbour and Docks of Leith; 3. by Matriculation, Graduation, and other Fees, paid annually; and 4. by annual payments by public bodies or private persons, and from Bursary Funds, of which neither principal nor interest is in the hands of the Court. The income derived from the last of these sources is omitted from the present Statement, because the Court have not hitherto been able to obtain the necessary information for determining its amount, having no control over these funds or their application.

A.—CAPITAL IN CHARGE OF THE UNIVERSITY COURT, INCLUDING FLOATING BALANCES.

As at 30th August 1890.

I.—DESTINED FOR SPECIAL PURPOSES BY DEED, STATUTE, OR ORDINANCE.

1. For Salaries of Professors, viz. :—

(1.) Pulteney Foundation (Agricultural Chair) -	£957 19 9
(2.) Thomson Foundation (4-5ths Nat. Hist. Chair)	991 8 8
(3.) Muir Foundation (Sanskrit Chair) - -	6,250 8 9
(4.) Reid Foundation (Music Chair) - - -	12,000 0 0
(5.) Baxter Foundation (Engineering Chair) -	5,037 17 6
(6.) Murchison Foundation (Geology Chair) -	5,045 14 4
(7.) Watson-Gordon Foundation (Fine Art Chair)	11,103 16 0
(8.) Bell Foundation (Education Chair) - -	10,555 18 1
Carry forward	£51,943 3 1

[1] £540 of this sum is payable out of Government grant.

	Brought forward				£51,943	3 1
(9.)	Chair of Commercial and Political Economy, and Mercantile Law (revenue on hand),[1] -				0	6 7
(10.)	Celtic Chair, - - - - - -				14,214	18 9
(11.)	Gifford Bequest, - - - -				22,731	18 0
(12.)	Baxter Fund for further endowment of Chairs in the Faculty of Arts, excepting Engineering and Sanskrit, - - - -				17,980	14 3
(13.)	Steven Lectureship in Agriculture, - -				3,016	9 0
	TOTAL				£109,887	9 8
2.	For Class Expenses and Assistants :—					
(1.)	Reid Found. (Music Chair),	£8,500	0	0		
(2.)	Baxter Found. (Engineering Ch.)	868	17	4		
(3.)	Murchison Found. (Geology Ch.)	1,003	18	3		
(4.)	Thomson Foundation (1-5th Mineralogy), - -	261	0	6		
(5.)	Watson-Gordon Foundation -	1,110	0	1		
	TOTAL,				11,743	16 2
3.	For Reid Commemoration Concert - - -				8,000	0 0
4A.	For Bursaries, Scholarships, Fellowships and Prizes, intrusted to Senatus:—					
(1.)	Aitken Scholarship - -	£2,971	12	6		
(2.)	Ardvorlich Bursary - -	410	18	2		
(3.)	Neil Arnott Prize - -	1,211	13	10		
(4.)	Neil Arnott Scholarship -	1,159	2	2		
(5.)	Baxter Mathematical and Philosophical Scholarship -	3,353	7	1		
(6.)	Baxter Natural and Physical Science Scholarships -	4,001	15	9		
(7.)	Misses Baxter of Balgavies Scholarships - -	3,841	6	2		
(8.)	John Edward Baxter Scholarships	7,823	9	1		
	Do., For Examiners' Fees	376	0	8		
(9.)	Bruce of Grangehill & Falkland's Scholarships and Bursaries	14,799	15	3		
(10.)	Beaney Prize - -	1,000	0	0		
(11.)	Cairns Bursary - -	474	10	0		
(12.)	Cameron Prize - -	2,622	12	5		
(13.)	Dr John Aitken Carlyle's Medical Bursaries - - -	1,679	18	6		
	Carry forward	£45,726	1	7	£129,631	5 10

[1] No Capital—Income derived from annual payment by governors of George Watson's and Daniel Stewart's Hospitals.

	Brought forward	£45,726	1	7	£129,631	5	10
(14.)	Cousin Prize	463	12	7			
(15.)	Cobb Scholarship	993	12	8			
(16.)	Drummond Scholarship	2,721	7	4			
	Do., For Examiners' Fees	305	12	3			
(17.)	Dickson Travelling Fund	3,140	13	1			
(18.)	Dundas Bursaries	844	15	7			
(19.)	Edinburgh University Endowment Association Arts Bursaries (revenue on hand)[1]	180	0	0			
(20.)	Ettles Divinity Scholarships	3,235	16	11			
(21.)	Ettles Medical Scholarship	1,034	2	6			
(22.)	Ellis Prize	747	17	1			
(23.)	Falconer Memorial Fellowship	2,835	19	9			
	Do., For Examiners' Fees	124	9	4			
(24.)	Fotheringham & Forrest Bursaries	1,222	13	1			
(25.)	James Fairbairn Scholarship	1,057	15	5			
(26.)	Freeland Barbour Fellowship	1,545	7	10			
(27.)	Glover Divinity Scholarship	1,082	8	6			
(28.)	Gray Scholarships	2,253	13	1			
(29.)	Guthrie Fellowship	2,747	7	0			
(30.)	Grierson Bursaries	10,542	2	1			
(31.)	Gunning Theological Scholarships[1]	114	8	4			
(32.)	Goodsir Memorial Prize	948	15	4			
(33.)	Hamilton Philosophical Fellowship	2,645	10	8			
	Do., For Examiners' Fees	155	15	5			
(34.)	Harrison Bursary	960	8	8			
(35.)	Hope Prize	2,454	14	5			
(36.)	Robert Hunter Bursaries	995	11	4			
(37.)	Jardine Bursary	915	3	1			
(38.)	Jardine of Thorlieshope Bursaries	4,276	14	1			
(39.)	Johnstone of Harthope Bursary	559	3	9			
(40.)	Jeffrey Scholarships	4,573	19	0			
(41.)	David Kidd Divinity Scholarship	1,033	0	2			
(42.)	Leith Harbour Annuity Fund	1,183	7	7			
(43.)	Lang's Bequest	399	5	11			
(44.)	Leckie Mactier Fellowship	2,041	16	9			
(45.)	Charles Maclaren Scholarship	2,836	14	7			
	Do., For Examiners' Fees	212	17	0			
(46.)	Maxton Scholarship	1,085	3	0			
	Carry forward	£110,197	16	9	£129,631	5	10

[1] Capital not in hands of Senatus.

	Brought forward	£110,197	16	9	£129,631	5	10
(47.)	Mackenzie Classical Scholarship	3,114	17	3			
(48.)	Macpherson Bursaries	2,862	19	2			
(49.)	Mackenzie Bursaries in Anatomy	1,004	18	7			
(50.)	Marshall Bursary	1,011	14	4			
(51.)	MacKinnon Bursaries	1,651	6	6			
(52.)	Mann Bursaries	2,099	7	9			
(53.)	Mackie Bursaries	1,824	13	7			
(54.)	Maclaurin Bursary	2,049	1	5			
(55.)	Newton Bursary	2,348	3	4			
(56.)	Prizes in Sanskrit, *Capital applicable*	60	13	8			
(57.)	Pitt Club Classical Scholarship	1,709	7	4			
(58.)	Pitt Club Theological Scholarship	3,325	12	7			
(59.)	Patrick Bursaries	3,493	1	4			
(60.)	Rhind Scholarships	4,997	3	7			
(61.)	Renton Bursary in Arts	551	11	9			
(62.)	Renton Bursary in Divinity	550	6	3			
(63.)	Horsliehill Scott Bursaries	2,080	0	9			
(64.)	Shaw Philosophical Fellowship	4,364	15	2			
(65.)	Shortt Bursary	247	2	6			
(66.)	Steven of Ballahouston Scholarship	2,033	11	0			
(67.)	Syme Surgical Fellowship	3,012	14	3			
	Do., For Examiners' Fees	240	9	4			
(68.)	Scott and Dunbar Prize	286	7	3			
(69.)	Dobbie Smith Prize	157	4	4			
(70.)	Mackay Smith Scholarships	2,975	0	0			
	Do., For Examiners' Fees	113	13	6			
(71.)	Stark Scholarship	1,481	18	0			
(72.)	James Scott Scholarship	1,037	8	9			
(73.)	Tarsappie Bursary	154	11	8			
(74.)	Vans Dunlop Scholarships	66,078	1	4			
(75.)	Wightman Prize	386	16	6			
(76.)	Robert Wilson Memorial Prize	249	3	5			
(77.)	Webster Bursaries	4,105	9	7			
(78.)	John Welsh Bursaries	3,813	1	7			
(79.)	Whitelaw Bursaries	2,104	3	10			
(80.)	King William III. Bursaries	12	10	0			
	TOTAL				237,786	17	11
5.	Principal's Official Residence				4,694	0	0
	Carry forward				£372,112	3	9

Brought forward	£372,112	3	9
6. For Completion of present College Buildings :— Robert Cox's Bequest, with interest - -	20	16	10
7. Gilchrist Fund for purchase of apparatus - -	2,206	8	1
8. Eskbank Feu-Duties—Casualty Fund - -	196	17	1

II.—CAPITAL, THE INCOME OF WHICH IS APPLICABLE FOR THE GENERAL PURPOSES OF THE UNIVERSITY.

(1.) General Reid's Trust Fund, Balance after setting aside sufficient Capital to provide Income for Special Purposes as above	£20,000	0	0		
(2.) General Sir Joseph Straton's Trust Fund - - -	14,039	15	8		
(3.) Robert Cox's Bequest -	1,794	14	8		
(4.) Alexander Gibson's Bequest -	2,000	0	0		
(5.) John Fulton's Bequest -	2,292	7	9		
				40,126	18 1

III.—DISPOSABLE CAPITAL BELONGING TO GENERAL UNIVERSITY FUND, AS AT 30TH AUGUST 1890.

1. Heritable Securities, &c. - -	£25,905	13	10		
2. Balances in Bank, &c. - -	1,438	18	1		
Total Disposable Capital				27,344	11 11
Total Capital in charge of Senatus,				£442,007	15 9

B.—INCOME OF THE UNIVERSITY DESTINED BY DEED, STATUTE, OR ORDINANCE, 1889-90.

1. For Salaries of Principal and Professors :—			
(1.) From Interest, &c., of Funds in Charge of the Senatus. See Statement of Capital, A. I. 1.	£3,027	8	11
(2.) From Leith Harbour Annuity - - -	1,064	0	10
(3.) From Parliamentary Grant - - - -	5,413	17	10
(4.) From Deanery of the Chapel Royal - -	900	0	0
(5.) From Land Revenues of the Crown - -	250	0	0
(6.) Foundation for Conveyancing Chair, paid yearly by Society of Clerks to H.M. Signet	105	0	0
(7.) From Funds of George Watson's and Daniel Stewart's Hospitals - - - -	450	0	0
2. For Class Assistants and Class Expenses :—			
(1.) From Reid Fund for Music Chair. See Statement of Capital. A. I. 2. £300 0 0			
Carry forward £300 0 0	£11,210	7	7

Brought forward	£300	0	0	£11,2	107	7
(2.) From the Gen. Univ. Fund, for the Chairs of Chemistry, Nat. Philosophy, Anatomy, Materia Medica, and Medical Jurisprd.	735	0	0			
(3.) From Foundation for Chair of Engineering	30	11	4			
(4.) From Murchison Foundation for Chair of Geology	36	10	0			
(5.) From Thomson Fund (Mineralogy), for Do.	8	14	4			
(6.) From New Parliamentary Grant for Class Assistants in Faculty of Arts	400	0	0			
(7.) From Funds of Geo. Watson's and Daniel Stewart's Hospitals for Chair of Commercial Economy	50	0	0			
(8.) From Watson-Gordon Fund for Chair of Fine Art	41	4	0			
				1,601	19	8
3. For Non-Professorial Examiners in Arts and Medicine, From Parliamentary Grant				540	0	0
4. For Scholarships, Bursaries, and Prizes :—						
(1.) From Capital Funds in Charge of Senatus. See Statement of Capital, A. I. 4	£8,496	1	0			
(2.) From Leith Harbour Annuity	414	2	4			
(3.) From Funds of Geo. Watson's and Daniel Stewart's Hospitals for Chair of Commercial Economy	24	0	0			
				8,934	3	4
5. For Reid Commemoration Concert, from Reid Fund, See A. I. 3				300	0	0
6. For Lectures on Forestry from Special Government Grant				100	0	0
7. For Pensions to Retired Professors from Parliamentary Grant				2,026	15	8
8. For Steven Lectureship in Agriculture				33	18	10
9. For Lectureship on the Philosophy of Natural History				50	0	0
10. For Lord Gifford's Lectureship				766	12	6
11. For purchase of Scientific Apparatus from Gilchrist Fund				80	8	10
12. For Management of Special Funds from interest of Floating Balances				135	8	0
13. For Casualty and Expenses on Eskbank Feu-duties				88	18	10
Total Destined Income,				£25,868	13	3

C.—TOTAL UNIVERSITY INCOME.

Destined Income as above - - - -		£25,868	13 3
General Fund Income, as below	£15,849 14 8		
Less Amount destined by Ordinance for Assistants and Class Expenses, entered above, C. 2 (2.) - -	735 0 0		
		15,114	14 8
Total University Income - - -		£40,983	7 11

D.—INCOME AND EXPENDITURE OF GENERAL UNIVERSITY FUND, 1889-90.

I.—INCOME.

1. Matriculation Fees - - - -		£3,526	10 0
2. Graduation Fees, viz.:—			
(1.) Arts - - -	£409 7 0		
(2.) Science - - -	438 15 0		
(3.) Medicine - - -	6,952 5 0		
(4.) Divinity - - -	91 7 0		
(5.) Law - - - -	103 18 0		
		7,995	12 0
3. Fees of Registration of Members of General Council		331	0 0
4. Fees of Admission to Library - - -		54	12 0
5. Grant from Government to Aid in Maintaining and Repairing Buildings - - -		500	0 0
6. Interest of Invested Funds and Bank Accounts -		940	12 11
7. From Funds bequeathed to the University for General Purposes, viz.:—			
(1.) General Sir Joseph Straton's Bequest - - -	£488 18 8		
(2.) Robert Cox's Bequest -	69 19 10		
(3.) Alexander Gibson's Bequest	65 5 5		
(4.) John Fulton's Bequest, -	104 17 10		
		729	1 9
8. From Funds partly appropriated to Special Purposes, the Surplus Revenues of which fall to the General University Fund, viz.:—			
(1.) Leith Harbour Annuity Fund	£668 2 4		
(2.) General Reid's Trust Fund -	699 3 10		
		1,367	6 2
9. From Parliamentary Grant:—			
(1.) Quarter's grant for Buildings	£125 0 0		
Do., Library -	143 15 0		
Carry forward	£268 15 0	£15,444	14 10

	Brought forward				£268	15	0	£15,444 14 10
(2.)	Unappropriated portion of quarter's grant - -				47	8	1	
								316 3 1
10.	Miscellaneous Receipts :—							
(1.)	For authority to publish Calendar				£60	0	0	
(2.)	For use of Rooms for Meetings, &c.				23	2	0	
(3.)	Sundries - - -				5	14	9	
								88 16 9
	Total General Fund Income,			- -				£15,849 14 8

II.—Expenditure.

General Administration :—

1. *University Court—*

(1.)	Secretary's Salary - - - -							£270 3 1
(2.)	Clerks' Salaries - - - -							185 8 5
								£455 11 6

2. *Senatus Academicus—*

(1.)	Secretary's Salary - -				£243	15	0	
(2.)	Clerk and Assistant Clerks' Salaries - - -				275	8	5	
(3.)	Dean of Faculty of Medicine's Do.				97	10	0	
(4.)	Dean of Faculty of Arts' Do.				73	2	8	
(5.)	Dean of Faculty of Divinity's Do.				29	5	0	
(6.)	Dean of Faculty of Law's Do.				48	15	0	
								767 16 1

3. *General University Council—*

(1.)	Secretary's Salary - -				£9	15	0	
(2.)	Fees to Registrar and Assistants				134	8	0	
(3.)	Meetings, Advertisements, &c.				115	13	8	
								259 16 8

4. *Management—*

(1.)	Factors' Salary - -				£216	4	4	
(2.)	Auditor's Fee - -				35	14	0	
(3.)	Law Agent's Account, embracing transfer of Funds to University Court, and preparing Returns to Universities Commissioners -				364	11	0	
(4.)	Stockbrokers' Account for transfer of certain Investments				50	12	6	
								667 1 10
				Carry forward				£2,150 6 1

Brought forward		£2,150	6 1
5. *Editing Calendar*		29	5 0
6. Incidents for Court, Senatus, and Factors		440	8 0
		£2,619	19 1

II. LIBRARY :—			
1. Librarians' Salaries	£985 8 4		
2. Books	1,387 7 11		
3. Bookbinding	257 17 0		
4. Printing, Stationery, &c.	124 4 3		
		2,754	17 6
III. MUSEUMS AND TEACHING APPLIANCES :—			
1. Anatomical Museum	£258 10 0		
2. Botanical Herbarium	100 0 0		
3. Natural Philosophy Museum	50 0 0		
4. Midwifery Do.	15 0 0		
5. Miscellaneous	200 14 4		
		624	4 4
IV. BUILDINGS :—			
1. Maintenance, Repairs, and Renewals, &c.	£3,748 12 8		
2. Cleaning, Heating, Lighting	1,111 0 9		
3. Public and Parochial Burdens and Feu Duty	643 7 0		
4. Insurances	162 11 8		
		5,665	12 1
V. SERVICE :—			
1. Janitor	£155 0 0		
2. Music Class Room Keeper	30 0 0		
3. Warder and Servitors and their Dress,	708 11 11		
		893	11 11
VI. CLASS ASSISTANTS AND CLASS EXPENSES :—			
1. Allocated by Commissioners' Ordinance	£735 0 0		
2. Allocated since by Senatus	1,579 0 0		
		2,314	0 0
VII. EXAMINERS :—			
1. Divinity	£52 10 0		
2. Medicine	781 5 11		
3. Arts	198 1 0		
4. Law	52 10 0		
		1,084	6 11
VIII. PRINTING AND ADVERTISEMENTS :—			
1. Printing	£343 14 3		
2. Advertisements	173 9 3		
		517	3 6
Carry forward		£16,473	15 4

Brought forward		£16,473	15 3
IX. Medals and Prizes :—			
1. Class Medals - - -	£100 16 8		
2. Class Prizes - - -	157 10 0		
		258	6 8
X. Ordinary Graduation Expenses :—			
M.D. Stamp Duty deducted - - -		237	11 2
XI. Incidental Grants :—			
1. Athletic Club - - -	10 10 0		
2. University Musical Association	10 0 0		
3. University Golf Club - -	5 0 0		
4. Sundries - - -	53 11 0		
		79	1 0
Total General Fund Expenditure -		£17,048	14 2
Excess of Expenditure - -		1,198	19 6
Leaving Income - - -		£15,849	14 8

The University Court.

MONDAY, 12TH MAY 1890.—On consideration of a letter from the Scottish Universities Commissioners, the Court agreed to leave in the hands of the Commissioners the question of the order in which the Assessors of the General Council and the Senatus should go out of office.

Other communications from the Commissioners were under consideration.

There were under consideration thirteen reports from the Finance Committee, dealing, among other things, with payment of various scholarships, bursaries, and prizes; also various University accounts, fittings in the Library and Anatomy departments, payment of the Professor of Civil Law, and payment of the Gifford Fund Lecturer.

There were under consideration four reports by the Business and Law Committee, in connection with one of which the Court had before them a Draft Ordinance on the duties of the Registrar of the General Council, which was revised and ordered to be communicated to the Senatus, as required by the Act of 1889.

There were under consideration two reports by the Works Committee, one of which was a half-yearly report on jobbing work and small repairs.

The Court had under consideration communications from the Senatus with regard to Draft Ordinances prepared by the Court on (1) the system of use of the Common Seal of the Court; (2), Payments and Investments, and (3) Limitation of time for Appeals against decisions of the Senatus. With regard to the first two of these, the Senatus made no observations; and they were passed, and ordered to be sent to the Scottish Universities Commissioners. Remarks by the Senatus on the third were considered, and the Ordinance was amended in accordance therewith. It was then passed, and ordered to be sent to the Commissioners.

Awards by the Senatus of the Baxter Science Scholarships and Ellis Prize were reported, and authority was given for payment to the holders.

Mr J. Falconer King and Mr John Hunter were recognised jointly as Lecturers on Chemistry and Practical Chemistry in Edinburgh, in terms of Ordinance No. 8, Edinburgh No. 5, sec. vi. (4).

On consideration of a Minute of Senatus, of date 10th May inst., it was resolved, in accordance with their recommendation, that the Examiner in Mathematical Science in the University should be the Examiner

in Physics for the First B.Sc. Examination in the Department of Public Health, with an additional salary of £10 a year; and that the Examiner in Chemistry for Graduation in Medicine should be the Examiner in Laboratory Work at the same B.Sc. Examination, with an increase to his salary of £15 a year.

Mr William Harvey, B.A., LL.B., was reappointed Examiner in Mathematical Science in the University for three years from the 1st of October next, on the understanding that he would undertake the additional duties referred to above.

The Court resumed consideration of the proposed revised Rules relative to Graduation in Science in the department of Public Health, and in connection therewith they had before them a Minute of the General Council of date 15th April last, stating that the matter had been submitted for their consideration. The proposed Rules were adopted, and it was ordered that they should be sent to the Chancellor of the University for his consent as required by § xii., 2, of the Universities (Scotland) Act 1858.

Authority was given for the discharge of a legacy by Miss Matilda Johnston Cobb of £1000 to the University for the endowment of a Divinity Scholarship in her memory.

A report by the S.S.C. Society on the legal education of Scottish Solicitors was remitted to the Committee on Draft Ordinances.

MONDAY, 9TH JUNE 1890.—There were received from the Scottish Universities Commissioners copies of a Draft Ordinance for transferring the patronage of the Chairs of Humanity, Civil and Natural History, and Chemistry in the University of St Andrews to the Court of that University. In connection therewith it was reported that information had been received that copies had been sent to the Senatus and the General Council. The Court saw no objections to the Draft Ordinance, and ordered intimation to be made to the Commissioners accordingly.

It was reported that an Extract from the Minutes of last meeting containing the amended Rules for Graduation in Science in the Department of Public Health had been submitted to the Chancellor of the University, and that the Rules had been sanctioned by him in terms of the Universities (Scotland) Act, 1858, § xii., 2. The Extract, with the Chancellor's sanction appended, was submitted, and instructions were given for its preservation.

Intimation was received from the Secretary of University College, Dundee, that the recognised Teachers of Medicine of that College were now Professors of the University of St Andrews. Authority was given for the necessary correction of the list of recognised Teachers of Medicine.

A Memorandum as to the extent to which it was advisable that Ordinances as to Graduation should enter into minute details was

adopted, and it was ordered that copies should be sent to the Scottish Universities Commissioners and to the Senatus.

A Report by the Senatus on Graduation in Law, and a relative statement by the Lecturer on Court Procedure, were remitted to the Committee on Draft Ordinances.

On consideration of a communication from the Senatus, it was resolved that the Court saw no objections to the Senatus publishing their completed Reports on Graduation.

Payment of fees to the Examiners for the Vans Dunlop Scholarship in Anatomy, Physiology, Materia Medica, and Pathology was authorised.

Payment of fees to the Examiners for the Jeffrey Divinity Scholarships was authorised.

The Degree of Bachelor of Arts of Dalhousie University, Halifax, Nova Scotia, was recognised as a sufficient Arts Degree for Candidates for the Degree of LL.B. in this University.

On consideration of a Minute of Senatus the Court approved of the appointment of Mr J. P. Walton, LL.B., Advocate, as substitute for Professor Sir Ludovic Grant at the July Examinations for Graduation in Law.

On consideration of a Minute of Senatus it was resolved to continue Mr Malcolm Laurie's tenure of the Falconer Memorial Fellowship for a third year.

On consideration of a Minute of Senatus the Court sanctioned the opening by the Professor of Natural History of an Advanced Class in Zoology suitable for Candidates for the second B.Sc. Examination. The fee was fixed at £2, 2s.

On consideration of a Minute of Senatus the Court resolved to continue recognition to Mr J. Rymer Paterson, B.Sc., Lecturer on Chemistry, and Teacher of Practical Chemistry, Edinburgh, on change of his teaching rooms.

A Standing Order, placing the management of the Students' Library Deposits and relative matters in the hands of the Chief Clerk was adopted.

MONDAY, 23RD JUNE 1890.—Principal Sir William Muir was appointed to be a Governor of the Trust for Education in the Highlands and Islands in Scotland.

Arrangements were made for payment by the University of the salaries, &c., provided from Parliamentary vote, hitherto paid by the Exchequer Office.

The Committee on Draft Ordinances submitted a proposed Draft Ordinance on Graduation in Arts, which was revised and approved,

and instructions were given that it should be transmitted to the Senatus Academicus for consideration at their meeting on Friday next.

The Committee on Draft Ordinances submitted proposed Draft Ordinances on Graduation in Science in the Departments of the Mathematical, the Physical, and Natural Sciences, of Public Health and of Agriculture, which were revised and approved, and instructions were given that they should be submitted to the Senatus Academicus for consideration at their meeting on Friday next.

MONDAY, 14TH JULY 1890.—There was laid before the Court a Regulation by the Scottish Universities Commissioners as to the date until which each of the Assessors in the Court for the General Council and the Senatus Academicus should continue in office, under which Dr Heron Watson and Dr Duncan are to continue in office till 30th November 1891; Mr M'Kie and Lord Justice-Clerk Macdonald till 29th November 1893; Professor Crum Brown till 30th November 1891; the Rev. Professor Taylor till 29th November 1892; Professor Sir William Turner till 29th November 1893; and Professor Campbell Fraser till 29th November 1894.

There was submitted a letter from the Universities Commissioners intimating the quarterly amount to be paid by them to the University of Edinburgh on the 30th of June last, and at the two following quarters of this year, from the new annual Parliamentary grant of £42,000 to the Scottish Universities.

The Court had under consideration the University Accounts for 1888-89, with memoranda thereon; and arrangements were made for obtaining information on points referred to in the memoranda, and for subsequent consideration of the whole matter.

On consideration of an application by the Lecturer in the University on Court Procedure, and relative Minute of Senatus and recommendation of the Business and Law Committee, it was resolved to sanction the opening of a Practical Class in connection with the course of Lectures on Court Procedure—the Class to meet twenty times in the Winter Session, for two hours on each occasion. The fee was fixed at £3, 3s., as recommended by the Senatus.

The Works Committee reported that they had made inquiry as to collections belonging to the University, but which were not within the College buildings,—viz., the Torrie collection of Works of Art, the Traill collection of Reptiles, and the University Herbarium,—and that they were of opinion that the arrangements made in each case for the safety of the collections were such as the Court should approve of. The Court concurred.

The Finance Committee reported that, on consideration of an award by the Senatus Academicus, they had authorised payment of the Robert Wilson Memorial Prize in Chemistry to Mr Edward Crarer.

Various Reports by the Finance Committee on matters relating to Accounts and to Work on the College Buildings were disposed of.

The Committee on Draft Ordinances submitted Ordinances which they had prepared on—(1) the Duties of the Registrar of the General Council; (2) Graduation in Arts; (3) Graduation in Science in the department of the Mathematical, the Physical, and the Natural Sciences; and (4) Graduation in Science in the Department of Agriculture. These ordinances having been communicated to the Senatus, in terms of section 19 (1) of the Universities (Scotland) Act, 1889, were, with the opinion of the Senatus thereon, under consideration. They were finally adjusted and approved, and it was ordered that they should be sent to the Scottish Universities Commissioners.

The Court had under consideration Draft Ordinances prepared by their Draft Ordinances Committee on—(1) Graduation in Music; (2) Graduation in Medicine and Surgery; (3) Graduation in Law, Degree of Bachelor of Laws (LL.B.); and (4) Graduation in Law, Degree of Bachelor of Law (B.L.) These were approved, and it was ordered that they should be communicated to the Senatus, in terms of the section and Act above referred to.

It was agreed to delay further consideration of Draft Ordinances on Graduation in Science in (1) the Department of Public Health, and (2) the Department of Civil Engineering.

There was laid before the Court a Minute of the Committee of the Association for the Better Endowment of the University of Edinburgh, making provision for four competition Bursaries in the Faculty of Arts —two to be open for competition at the beginning of the Session 1890-91, and two at the beginning of the Session 1891-92. It was ordered that the Minute should be acknowledged with thanks, and that copies of the Minute furnished by the Committee should be sent to the Senatus for their information.

On consideration of a Minute of Senatus it was resolved to recognise to the full extent the Matriculation Examination of the University of the Cape of Good Hope, as exempting Candidates for Graduation in Medicine in the University of Edinburgh, from the Examination preliminary to entrance on Medical Study.

On consideration of a Minute of Senatus it was resolved to continue recognition as a Teacher of Practice of Medicine to Dr Alexander James on change of his teaching rooms.

MONDAY, 20TH OCTOBER 1890.—It was reported that at the meeting called for 30th July last there was no quorum.

A number of communications from the Universities Commissioners were submitted, among which were the following:—(1) Letter inviting the Court to suggest in what manner the expenses of the General Council should be defrayed; as to which it was reported that the

Finance Committee were in the course of obtaining information on the subject. (2) Letter inviting oral evidence on behalf of the Court on the Court's Draft Ordinance on Graduation in Arts; as to which arrangements made by the Principal were reported. (3) Letter asking for list of Reports made to the Court; as to which it was reported that information had been supplied by the Secretary. (4) Draft Ordinance with regard to power to make Payments and Investments; as to which it was resolved to intimate to the Commissioners that the Court had no remarks to make. (5) Draft Ordinance on limitation of time for Appeals and Representations; as to which it was resolved to intimate to the Commissioners that the Court had no remarks to make. (6) Draft Ordinance as to the use of the Common Seal of the Court; as to which it was resolved to intimate to the Commissioners that the Court had no remarks to make. (7) Draft Ordinance with regard to management of Libraries, Museums, and Laboratories; which was remitted to the Court's Draft Ordinances Committee. (8) Draft Ordinance with regard to the election of Rector at Glasgow and Aberdeen; as to which it was resolved to intimate to the Commissioners that the Court had no remarks to make. (9) Letter intimating that the Treasury was now prepared to pay the proportion of the Library Stationers' Hall Compensation Grant for the period from 20th August 1889 to 31st March 1890.

There was laid before the Court a petition by Professor Sir Herbert Oakeley for permission to retire from the Chair of Theory of Music on a retiring allowance, on the ground of his being permanently incapable through illness to discharge the duties of the office. Medical certificates in support of the petition were submitted. The petition suggested that the retirement should take effect from May next. The Court were of opinion that Professor Oakeley should be permitted to retire, on the understanding that the retirement should not take effect sooner than May next, and resolved to take measures for carrying out this decision, and for fixing the date of retirement.

Arrangements made by the Senatus under which the duties of the Chair of Music are to be carried on during Session 1890-91 by Mr John Greig, M.A., Mus. Doc., were approved.

The Standing Committees of the Court on Business and Law, Finance, and Works, were reappointed for the current year.

There was submitted a bond by Dr Gunning for £5000, securing the endowment of Prizes and a Lectureship on Divinity founded by him in the University, which was presented for the acceptance on conditions contained in a relative letter from his agents to the agents for the Court. The Court resolved gratefully to accept the bond, subject to the conditions referred to.

Several Scholarship and Prize awards passed by the Principal for payment, under one of the Standing Orders of the Court, were reported.

There was laid before the Court copy of the Trust Disposition and Settlement by the Rev. Thomas Maule, containing a bequest by him in 1864 for the endowment of four Bursaries in the University, the funds for which have recently become available.

On consideration of a Minute of Senatus, it was resolved to appropriate the sum of £223, being the balance of the Fulton Fund, towards the equipment of the Fulton Engineering Laboratory.

There was laid before the Court copy of a Memorial by Architects in Edinburgh to the Scottish Universities Commissioners with regard to a proposed University Curriculum in Architecture, and a relative Degree or other University distinction.

Principal Sir William Muir was reappointed to be a Curator of Patronage in the University for three years from 5th December next, and Mr T. G. Murray was reappointed to be a Curator of Patronage for three years from 12th December next.

There was laid before the Court a letter from the Scottish Musical Society drawing the attention of the Court to a scheme for the reorganisation of the Music Chair, presented by the Society to the Universities Commissioners, and requesting the Court to keep this circumstance in view in connection with the vacancy in the Chair, which the Society understood to exist.

It was resolved to intimate the vacancy in the Chair of Humanity, caused by the death of Professor Sellar, to each of the bodies interested in the Patronage of the Chair.

The appointment by the Senatus of Mr John Burnett, M.A., Merton College, Oxford, to conduct the Class of Humanity during Session 1890-91, was approved. The appointment of the following Class Assistants for Session 1890-91 was approved:—Latin, Mr F. R. Jamieson, M.A.; Greek, Mr John A. Smith, M.A.; Mathematics, Mr R. E. Allardice, M.A.; Anatomy, Mr David Hepburn, M.B.; and Chemistry, Mr John Gibson, Ph.D., and Mr Leonard Dobbin, Ph.D.

Monday, 17th November 1890.—It was reported that a letter had been received from the Secretary of the Scottish Universities Commission intimating the extension of the time for lodging the Court's Draft Ordinances on Graduation in Medicine to the 30th inst.

It was reported that the meeting had been postponed from the 10th to the 17th by the Principal's instructions, in order to give time for Committee meetings, &c. It was resolved to postpone the December meeting from the 8th to the 15th of the month for the same reason.

On the recommendation of the Business and Law Committee, it was resolved to proceed in the matter of Sir Herbert Oakeley's retirement from the Chair of Theory of Music by Report to Her Majesty in Council as formerly. It was resolved that the Court should recommend

that the retirement should take effect from 15th May next, as proposed by Sir Herbert Oakeley.

There were under consideration the terms of the bequest by the late Rev. Thomas Maule, providing for four bursaries of £20 a year each in the University.

The Finance Committee reported that the University Accounts for 1889-90 had been received from the Factors, and that a Report thereon by the Committee was in preparation.

On the recommendation of the Finance Committee, the Court approved of a fee of Two Guineas being paid from the Cameron Prize Fund to each of the four Professors who adjudged the Cameron prize last summer.

On the recommendation of the Finance Committee, it was resolved to allow a Salary of £30 a year to the Convener of the Science Degrees Committee of Senatus, for taking charge of the business of the Committee, the work being of the same nature as that done by the Dean of a Faculty.

On the recommendation of the Draft Ordinances Committee, Draft Ordinances containing Regulations for the Degree of Bachelor of Laws (LL.B.), and for the Degree of Bachelor of Law (B.L.), were considered and generally approved. It was remitted to the Committee to readjust one section of the former Ordinance, with power thereafter to transmit both Ordinances to the Commissioners.

The Draft Ordinances Committee submitted the views of the Faculty of Medicine with regard to the Draft Ordinance for Graduation in Medicine and Surgery. The Draft Ordinance was revised and generally approved, and its final adjustment was remitted to a special Committee, with power to transmit it to the Commissioners.

On the recommendation of the Draft Ordinances Committee, a Draft Ordinance regulating Graduation in Science in the Department of Public Health was considered and approved, and it was ordered that it should be sent to the Commissioners.[1]

It was ordered that a portrait of Sir Herbert Oakeley, presented by himself for the purpose of being placed in the Senate Hall, should be offered to the Senatus for that purpose.

The appointment of Mr William Peddie, D.Sc., as Assistant to the Professor of Natural Philosophy, and of Dr Charles Hunter Stewart, as Assistant to the Professor of Medical Jurisprudence, was approved.

It was reported that a copy of a Deed of Mortification by the late Mr George Cousin for a "Bailie Cousin Bursary" in Arts, to be endowed with the sum of £800, had been received. It was reported that

---

1 This Draft Ordinance was however held over at the request of the Senatus for further consideration by them. See p. 583.

the gift was subject to legacy duty, &c., and that the sum available would amount to about £700.

MONDAY, 15TH DECEMBER 1890.—It was reported that intimation had been received of the Election of the Right Hon. George Joachim Goschen, Chancellor of the Exchequer, to be Rector of the University for three years, in virtue of which he became a Member of the Court from the date of his Election.

It was reported that the Court's two Draft Ordinances with regard to Graduation in Law and their Draft Ordinance with regard to Graduation in Medicine had been transmitted to the Commissioners and acknowledged.

The following Minute, with regard to the late Professor Sellar, was adopted :—"The University Court records the deep regret with which it received the announcement of the death of Professor Sellar on the 12th of October last, an event which has deprived the University of a light and ornament, and literature of an author who, in the combination which his writings present of large and generous human sympathies with refined taste and exact scholarship, reflected lustre upon Scotland. By the charm of a unique individuality, the lights and shades of a tender sensibility, and the simplicity of a transparently honest nature, Professor Sellar secured and retained the warm affection of his colleagues and many friends, as well as the respect and admiration of the generations of Students whom he inspired with love of Roman Literature, in the twenty-seven years during which he held the Chair of Humanity. The Court unites in sympathy and condolence with Mrs Sellar and the other members of the family of the late Professor, and desires that a copy of this Minute be sent to Mrs Sellar."

The Business and Law Committee submitted headings received from the Commissions for the Annual Statistical Report called for by section 30 of the Universities (Scotland) Act, 1889. Instructions were given for obtaining the necessary information. The same Committee also submitted the Class Returns of the University Professors and recognised Medical Lecturers for 1889-90, which called for no remark.

The Finance Committee submitted instructions received from the Universities Commissioners for the Annual Financial Report to the Secretary for Scotland called for under section 30 of the said Act, which were considered.

The Finance Committee reported a number of Scholarship, Fellowship, and Bursary awards by the Senatus which had been passed for payment; and a Bursary award by the Earl of Haddington, which had also been passed for payment.

The Finance Committee submitted a Minute of Senatus containing a list of Fees to Examiners for Scholarships and Bursaries. Payment of these was authorised.

A Minute of the Electing Body for the Steven Lectureship containing the appointment of Mr William Fream, B.Sc., LL.D., as Lecturer for three years, was submitted. The Court authorised payment of the salary of Mr Fream for that period.

The Committee submitted letters containing an offer to sell to the University an Archæological Museum, which offer the Court declined, on the ground that the University has no funds for such a purpose.

The Finance Committee submitted a Deposit Receipt for £1000, received from a gentleman whose name is not at present to be made public, taken in names of the Principal and Mr William Somerville, Lecturer in Forestry, "for behoof of the proposed Endowment of Education in Forestry in connection with the Edinburgh University by the institution of a separate Chair or Lectureship." It was resolved gratefully to accept this Donation, but that in doing so the Court should come under no obligation as to the time when they should consider that the funds available should be sufficient for instituting either a Lectureship or a Professorship. It was ordered that this resolution should be reported to the Commissioners.

The Works Committee submitted Reports by the Clerk of Works on the expenditure on the University buildings from 1st September 1889 to 30th October 1890, and another Report by him on the condition of the University buildings. These Reports were read.

The Works Committee reported the conditions under which it had been agreed to lend the portrait of Principal Robertson for exhibition to the "Hanover" or "Guelph" Exhibition in London. The conditions were approved.

The Draft Ordinances Committee submitted a Draft Ordinance for instituting a Faculty of Music in the University, and for granting Degrees therein. The Ordinance was finally approved and passed, and instructions were given that it should be sent to the Commissioners.

The Draft Ordinances Committee submitted Draft of Objections and Amendments prepared by them regarding the Commissioners' Draft Ordinance on a Libraries, Museums, and Laboratories Committee. The Draft was revised and approved, and it was ordered that it should be sent to the Commissioners.

The Draft Ordinances Committee submitted a Draft Ordinance on Graduation in Science in the Department of Civil Engineering, which was approved, and it was ordered that it should be sent to the Senatus for their consideration. In connection with this matter the Court had before them a letter from Mr A. B. Brown, C.E.

The Draft Ordinances Committee also submitted a letter from a subcommittee of Architects in Edinburgh as to a memorial in favour of the Course of Study and a Degree or other University distinction in Architecture. Consideration of the matter was deferred.

There was laid before the Court a Minute of Senatus, of date 29th

November last, recommending the Court to accept an offer to the University by Sir David Chalmers, Chief Justice of British Guiana, of the Law Library of the late Professor Lorimer, under certain conditions. A copy of the letter from Sir David Chalmers to Professor Kirkpatrick containing the offer was read, from which it appeared that Professor Lorimer had bequeathed the library to Sir David Chalmers some years ago, but that, although Professor Lorimer had left no directions altering this bequest, it was known to Sir David that his latest views were that the Library should become useful to the University. Sir David therefore felt that in offering the Library to the University he was virtually carrying out what Professor Lorimer would have done had he put his wishes into language. The Court resolved gratefully to accept this gift from Sir David Chalmers. In doing so they were well aware that the Library was of great value, and the gift a very munificent one, and they undertook that the wishes of Professor Lorimer, which formed the conditions attached by Sir David to the gift, should be complied with—namely, that the books should be kept together under the name of the Lorimer Collection (or some similar appellation), that a catalogue should be prepared and printed, and that the collection should be used only for the purposes of a consulting, not of a lending, library. It was ordered that a copy of this Minute should be sent to Sir David Chalmers and another to Mrs Lorimer.

On consideration of a Minute of Senatus, it was resolved that the 5s. admission fee should be made applicable to the practical Class in connection with the Lectureship on Court Procedure.

The Library Report for 1888-89, with the Accounts for 1887-88 and 1888-89, were received from the Senatus, with a relative statement as to the Accounts by the Vice-Convener of the Library Committee of Senatus. The financial papers were remitted to the Finance Committee, and the Report and Ordinary Accounts were directed to be sent to the Business and Law Committee under a remit made on 30th January last.

MONDAY, 26TH JANUARY 1891.—It was reported that the meeting had been postponed from the 12th to the 26th by the Principal's instructions.

The February meeting was postponed from Monday the 9th to Monday the 16th.

There was received from the Scottish Universities Commissioners a copy of each of the following Ordinances about to be laid before Parliament:—(1) Ordinance No. 4, General No. 1—Power to make Payments and Investments. (2) Ordinance No. 5, General No. 2—Limitation of time for Appeals and Representations. (3) Ordinance No. 6, General No. 3—Use of Common Seal. (4) Ordinance No. 7 (Glasgow and Aberdeen), No. 1—Election of Rector. It was reported that there appeared to be no change in the form of these Ordinances from that

of the relative Draft Ordinances sent to the Court for consideration on 31st July last.

There were received from the Scottish Universities Commissioners copies of the following Draft Ordinances:—(1)Draft Ordinance, General No. 5—General Council. (2) Draft Ordinance, General No. 6—Assessors of General Council. These Draft Ordinances were remitted to the Court's Draft Ordinances Committee for consideration and report.

The Business and Law Committee reported that they had under consideration the University Library Report and Accounts for 1888-89, and the Accounts for 1887-88, and that they seemed to the Committee to call for no remark.

The Business and Law Committee reported that they had had under consideration a Deed of Trust for the Endowment of a Gold Medal in Therapeutics in the University in memory of the late Dr John Milner Fothergill, of London, the funds for the endowment of which were presented mainly by his widow, Mrs Milner Fothergill. It appeared to the Committee that the funds did not belong to the University Court, as the property and control lie with the official Trustees named in the Deed. It was resolved to acknowledge the gift, with thanks, to Mrs Milner Fothergill.

The Finance Committee submitted their Annual Report on the Income and Expenditure of the University for the year ended 31st August last, with an estimate of the Income and Expenditure for the current year, which was considered and approved. It was ordered that copies should be sent to the Senatus for their information.

It was ordered that the Annual Financial Report by the University to the Secretary of Scotland should be made for the year ended 31st August last; and Mr T. G. Dickson, C.A., was appointed Auditor in connection with the Report.

Several Prize and Bursary awards passed for payment were reported.

The Works Committee reported that, owing to the death of Henry Wellby, temporary arrangements for the custody of the Reid Music Class-Rooms had been made. These were approved.

It was directed that the Annual Statistical Report to the Secretary for Scotland for 1889-90 should be submitted complete to next meeting of the Court.

The appointment of Assistant Registrars for the revisal of the Register of the General Council for 1892 was deferred, it being proposed in the Commissioners' Draft Ordinance, General No. 5, that the office should be abolished.

It was reported that an application had been received from Mr E. E. Prince, Lecturer on Zoology, Glasgow, for recognition as a Teacher of Medicine, whose course of Lectures should qualify for Graduation in the University of Edinburgh, under Ordinance No. 8, section vi. (4) of

the Universities Commissioners of 1858; and that the application had been sent to the Senatus for opinion as usual.

MONDAY, 16TH FEBRUARY 1891.—In was reported that intimation had been received from the Scottish Universities Commissioners that the following Ordinances had been laid before Parliament on the 26th of January last, viz. :—(1) Ordinance No. 4, General No. 1—Power to make Payments and Investments. (2) Ordinance No. 5, General No. 2—Limitation of time for Appeals and Representations. (3) Ordinance No. 6, General No. 3—Use of Common Seal. (4) Ordinance No. 7 (Glasgow and Aberdeen), No. 1—Election of Rector.

There was laid before the Court a revised Draft Ordinance by the Scottish Universities Commissioners with reference to Libraries and Museums, which was considered. It was ordered that it should be intimated to the Commissioners that the Draft Ordinance seemed to the Court quite satisfactory, and that they had no further criticisms to offer.

It was agreed that the Stated Meeting in March should be postponed from the 9th to the 16th of the month.

Sir William Turner gave notice of the following motion to be brought forward at the next meeting :—"That the Monthly Meeting of the Court be held on the third instead of the second Monday of the month, as specified in Standing Order No. 1."

There was laid before the Court an application by Professor Campbell Fraser for permission to retire from his Professorship, on 15th May next, on a retiring allowance, on the ground that, on account of advancing years, he was permanently incapacitated for the full discharge of the duties of the office. The Court, in resolving to report to Her Majesty in Council in favour of the application being granted, directed that it should be entered in their Minutes that they received the application with great regret.

The Business and Law Committee submitted the Statistical Report to the Secretary for Scotland for 1889-90.

The Business and Law Committee reported that they had had under consideration the University Library Report and Accounts for 1889-90, and that they called for no special remark; but that they should be sent to any member of the Court who desired to see them.

Awards by the Senatus of several Fellowships and Scholarships which had been passed for payment by the Principal under Standing Order 35 were reported.

A number of University Accounts passed for payment by the Convener of the Finance Committee under Standing Order 35A, and by the Finance Committee, were reported.

Grants to two Professors for class-room fittings, to be carried out at

once, and to three Professors for class-room fittings, to be carried out in autumn, were authorised.

On the recommendation of the Senatus, a grant of £4, 4s. to Mr G. G. Smith, for adjudicating on the essays for the Rector's Prize, was approved.

On the recommendation of the Finance Committee, Fees to Examiners for several Scholarships and Fellowships were fixed.

On the recommendation of the Finance Committee, Fees to some of the additional Examiners in Medicine for acting at the special final Examinations held in October last were authorised.

On consideration of a Minute of Senatus, the Court approved of the Library being open all the year from 10 to 1 at the shortest, with the exception of Saturdays in vacation, Christmas Day, New Year's Day, Good Friday, the Queen's Birthday, and the two Edinburgh Public Holidays. This Regulation does not apply to the reading-room.

There was laid before the Court a letter from the Secretary of the Edinburgh Society of Musicians stating that as the whole question of the disposal of the Reid Bequest was under the consideration of the Universities Commissioners, the Society respectfully urged upon the University Court the desirability of delaying in the meantime any appointment to the Chair of Music. It was reported that in acknowledging receipt of this letter, it had been stated that the Chair was not yet vacant, and that it was not expected that it would be vacant until 15th May next.

On consideration of an application by Professor Frankland, of the University College, Dundee, it was resolved to recognise the Public Health Laboratory there, and Professor Frankland as its Teacher, as fulfilling the requirements regarding laboratory instruction in the Regulations of the University of Edinburgh for Graduation in Science in the Department of Public Health.

It was reported that an application had been received for appointment to the Chair of Music from Mr Carl D. Hamilton, and that in acknowledging receipt he had been informed that the Chair was not yet vacant.

MONDAY, 16TH MARCH 1891.—It was reported that a letter had been received from Mr Goschen, Rector of the University, appointing Lord Stormonth Darling to be his Assessor in the Court. Lord Stormonth Darling took his seat as Rector's Assessor accordingly.

It was reported that Mr Thomas Graham Murray, W.S., had died on the 10th inst., and that in consequence the office of Assessor in the Court for the Chancellor of the University was vacant; also that one of the Curatorships of Patronage was consequently vacant. The following Minute, with regard to Mr Murray, was adopted:—

"The University Court of the University of Edinburgh resolves to record the deep regret with which it has received the announcement of the death of Mr Thomas Graham Murray, W.S., who was for many years one of its most valued members.

"By admirable administrative faculty, attention to the details of business, strength of character, wisdom in counsel, and generous academical sympathies, all directed with singleness of purpose under a steady regard to duty, Mr Murray filled a place in the supreme governing body of the University for which it will be difficult to find a successor. This must be felt still more in the re-arrangement of the affairs of the University now going on, which already owes much to his prudence and sagacity, as a member of this Court, and especially as chairman of its Business and Law Committee.

"The Court, in recording its sense of the eminent public services for which the University of Edinburgh is indebted to Mr Murray, cannot forget the true kindness which endeared him to his friends, and which, now that he has been taken away, awakens an acute feeling of personal bereavement.

"The Court desires to express its sympathy and condolence with Mrs Murray, and the other members of the family of the late Mr Murray, and resolves that a copy of this minute shall be sent to Mrs Murray."

On consideration of a motion by Sir William Turner, it was resolved that the monthly Stated Meeting of the Court, instead of being held on the second Monday of the month, should in future be held on the Monday occurring during the seven days beginning on the 12th and ending on the 18th of each month.

The Statistical Report to the Secretary for Scotland for 1889-90 was submitted and approved, and the Principal was authorised to sign it in name and by authority of the Court. The Secretary was instructed to sign it also; and it was directed that it should be sent to the Secretary for Scotland.

The Financial Report to the Secretary for Scotland for 1889-90, as audited, was submitted and approved, and the Principal was authorised to sign it in name and by authority of the Court. The Secretary was instructed to sign it also; and it was directed that it should be sent to the Secretary for Scotland.

It was reported that three letters had been received from the Universities Commissioners with regard to the financial requirements of the University, that they related to matters of urgency, and that they had been answered under the instructions of the Conveners of the Finance Committee.

On the recommendation of the Principal it was resolved to grant from the balance of the Humanity Class Fees Fund a Honorarium of one hundred guineas to Mr Francis R. Jamieson, M.A., the Assistant.

"In doing so the Court desired to place on record their appreciation of the manner in which Mr Jamieson had carried out duties greater in extent and more responsible in character than those usually falling to an assistant, not only during the current session, but during the last two or three years of the late Professor Sellar's tenure of the chair, when circumstances on several occasions required that the whole duties of the chair should be carried on by Mr Jamieson."

It was ordered that after all demands upon the Humanity Class Fees Fund had been settled, the balance should be transferred to the General University Fund.

A number of accounts were passed for payment, or reported as having been passed.

The Court took into consideration the Scottish Universities Commissioners' Draft Ordinance General No. 5, relating to the General Councils of the Scottish Universities, and, on the recommendation of the Draft Ordinances Committee, it was resolved to submit two suggested amendments thereon for the consideration of the Commissioners. It was further agreed to intimate that, beyond the matters referred to, the Court saw no objection to the Draft Ordinance.

On the recommendation of the Draft Ordinances Committee, it was resolved to intimate to the Universities Commissioners that the Court had no remarks to make on the Commissioners' Draft Ordinance General No. 6, as to the Assessors of General Council.

The Draft Ordinances Committee submitted the Draft Ordinance for Graduation in Science in the department of Public Health, as further revised by the Senatus and by the Committee. The Draft Ordinance was approved, and it was ordered that it should be sent to the Commissioners.

The Draft Ordinances Committee submitted a Draft Ordinance for Graduation in Science in the department of Engineering, as revised by the Senatus and by the Committee. The Draft Ordinance was approved, and it was directed that as soon as an explanatory note had been added thereto, it should be transmitted to the Commissioners.

There was laid before the Court a Minute of Senatus and relative letters as to a fund of about £160 for the endowment of a prize in memory of the late Professor Kelland. It was ordered to be intimated to the Senatus that the Court was prepared to accept the fund when the money was delivered to them.

There was laid before the Court a Minute of Senatus as to a proposal by the University Field Committee for acquiring ground for cricket and football, in which the Senatus expressed their opinion that the University would receive much benefit from the possession of a field for athletic sports in an easily accessible position, and desired to give the project their cordial encouragement. The Court heartily approved of the proposal, and expressed the hope that the necessary funds might be raised.

It was reported that an award of the Trotter (Morton Hall) Bursary had been passed for payment.

WEDNESDAY, 25TH MARCH 1891.—It was reported that the Court's Draft Ordinance on Graduation in Science in the Department of Public Health had been sent to the Scottish Universities Commissioners, and acknowledged.

It was reported that the Court's views on the Scottish Universities Commissioners Draft Ordinances marked (General No. 5, General Council), and (General No. 7, Assessors of General Council), had been sent to the Commissioners, and acknowledged.

MONDAY, 13TH APRIL 1891.—It was reported that a letter had been received from the Chancellor of the University appointing Mr Æ. J. G. Mackay, Advocate, Sheriff of Fife and Kinross, to be his Assessor in the Court—also that a letter had been received from Mr Mackay intimating his acceptance.

It was reported that a letter had been received from the Secretary of Senatus intimating Professor Campbell Fraser's resignation of one of the Assessorships in the Court for the Senatus. In connection therewith, the following letter from Professor Campbell Fraser to the Principal was submitted:—"Will you permit me in this way through you to take leave of my colleagues in the University Court, in which I have spent almost fourteen years, which I will always look back upon with pleasure and gratitude for the confidence thus placed in me by the Senatus Academicus, and the sympathy and co-operation of the members of the Court, and their indulgence to my shortcomings.

"Although our official connection is closed, I hope that I may still have the privilege of occasionally meeting my former colleagues in the Court.

"It is a true satisfaction to me that my place there is now filled by a younger man, more able to do good service to the University.

"Grateful in an especial manner to yourself personally, I am, &c."

Arrangements were made for the preparation of a special Minute in reply.

It was further reported that a letter had been received from the Secretary of Senatus, intimating that the Senatus had appointed Professor Butcher as their Assessor in the Court in succession to Professor Campbell Fraser. Professor Butcher took his seat as a member of the Court accordingly.

It was reported that the Statistical and Financial Reports by the Court to the Secretary for Scotland for the year 1889-90 had been sent and acknowledged.

It was reported that the Court's Draft Ordinance on Graduation

in Science in the Department of Engineering had been sent to the Universities Commissioners, and acknowledged.

There was laid before the Court an Order in Council approving of the Court's Report in favour of the retirement of Professor Sir Herbert Oakeley from the Chair of Theory of Music in the University on a retiring allowance. It was ordered to be published that the Chair would thereby become vacant on the 15th of May next.

There was laid before the Court an Order in Council approving of the Court's Report in favour of the retirement of Professor Campbell Fraser from the Chair of Logic and Metaphysics in the University on a retiring allowance. It was ordered to be published that the Chair would thereby become vacant on 15th May next; and it was reported that a copy of the Order in Council had been sent to the Curators of Patronage of the University.

It was reported that there had been received from the Scottish Universities Commissioners copies of an Ordinance General No. 8 (St Andrews, Aberdeen, and Edinburgh No. 1, Libraries and Museums), in form as sent by the Commissioners to the Secretary for Scotland for the purpose of being laid before both Houses of Parliament.

Dr Heron Watson was appointed to be a Curator of Patronage of the University for three years from this date, in succession to the late Mr T. G. Murray.

The Court resolved to appoint a Professor of the Theory of Music in succession to Sir Herbert Oakeley in the month of July next. It was ordered that each applicant for the Chair should lodge with the Secretary of the Court, not later than Tuesday, 30th June next, fifteen copies of his application, and fifteen copies of any testimonials he might desire to present, and that one copy of the application should be signed.

It was resolved to appoint an additional Examiner in Classics for the next three years period of office at the stated meeting in July, and it was ordered that the usual advertisements should be made.

It was reported that a sum of £100 had been received as a grant awarded by the Board of Agriculture in aid of the teaching of Forestry at the University of Edinburgh, carried on on behalf of the Royal Scottish Arboricultural Society. In connection therewith there was submitted a letter from the Secretary of the Society, on consideration of which it was resolved that the whole of the grant should be paid to the lecturer (Dr Sommerville) for the course of lectures in the Session just ended.

There was laid before the Court an application for the Chair of Music by the Rev. S. G. Hatherly, Mus. Bac.

On consideration of a Minute of Senatus it was resolved to intimate to the Committee of the University Endowment Association that the Court was prepared to accept the Donald Fraser Bursary in the Physical Sciences on the terms on which it was offered by the Committee.

Appendix.

—o—

I.—UNIVERSITY LOCAL EXAMINATIONS.

The BOARD grant Local Examination Certificates of two grades viz., JUNIOR and SENIOR, the Examinations for which are as nearly as possible on the same level as the Government Lower and Higher Grade Examinations.

The subjects of examination are divided into three classes,—PRELIMINARY SUBJECTS, SPECIAL SUBJECTS, and EXTRA SUBJECTS.

The Preliminary subjects, in which *all* Candidates must undergo Examination, are—(1) English, (2) History and Geography, (3) Latin (optional for girls), (4) Arithmetic, (5) Scripture History or French Accidence.

Pupils who have passed the Sixth Standard (Education Code) and the second stage of two specific subjects, at least one of which is a foreign language, are exempted from the Preliminary Examination.

The Special subjects (of which any two, except in Department E, but not more than four, may be taken at one Examination) are—(1) for JUNIOR CERTIFICATES: Department A.—Latin, Greek, French, German. B.—English, History and Geography, Scripture History. C.—Mathematics, Natural Philosophy, Physical Geography. (2) For SENIOR CERTIFICATE: A.—(as above), B.—English, History and Geography, Logic, Bible Knowledge. C.—Mathematics, Natural Philosophy. D.—Chemistry, Zoology, Botany, Physiology, Geology. E.—Arithmetic, Commercial History and Geography, Elements of Economics, and either French or German. In Department E. all the subjects must be taken before a Special Certificate is granted.

The Extra Subjects (optional) for both Certificates are Drawing and Music.

These Examinations have been instituted to supply a common test of attainment both for pupils of public schools and for those privately educated. They are held annually, early in June, at various local centres in Scotland, England, Ireland, and also abroad. They are open to boys and girls without restriction as to age.

Candidates may offer themselves for Examination in the Preliminary Subjects alone, and afterwards for the Special and Extra Subjects of the Junior or Senior Certificate; or, they may take the Preliminary, Special, and Extra Subjects, for either Certificate, at one Examination.

They may afterwards add to the value of the Certificate by taking one or more subjects. There are in connection with these Examinations eight Bursaries restricted to girls, two to boys, and one open to boys and girls.

PRIVILEGES ATTACHING TO THE CERTIFICATES.

1. The Senior Certificate, when it bears that the holder has passed in Latin, Greek, and Mathematics, entitles the holder to enter the University for the *Curriculum of Three Sessions in Arts without further examination.* It is thus equivalent to a recognised *Schools Leaving Certificate* for the Universities of Scotland.

2. The Junior and Senior Certificates exempt from the Medical Preliminary Examinations, in so far as they include the subjects required by the Council; and they are accepted also by the University of Edinburgh.

3. Ladies who hold the Senior Certificate are exempted from the Entrance Examination for Girton College, Cambridge..

4. Holders of the Senior Certificate above eighteen years of age are recognised as Assistants in State-aided schools.

The Board publishes a Report of the Examinations annually, containing copies of the Examination papers, classified lists of the successful Candidates, and Regulations for the following year. Copies of the Regulations, &c., may be had on application to the Clerk of Senatus

H. CALDERWOOD, LL.D., } *Joint*
S. S. LAURIE, LL.D., } *Secretaries.*
G. GREGORY SMITH, M.A., *Assistant Secretary.*

II.—UNIVERSITY CERTIFICATES IN ARTS FOR WOMEN.

I. Candidates, before they can receive Certificates, must have studied in *at least three* of the Classes of the "Edinburgh Association for the University Education of Women," that are recognised by the Senatus Academicus; and they must also have passed the Senior Local Examinations of the University of Edinburgh, or of one of the other Scottish Universities, or of the Universities of Oxford or Cambridge; or have obtained the Lower Grade Schools Leaving Certificate of the Scotch Department in at least four subjects, and the Honours or Higher Grade Leaving Certificate of the Scotch Department in at least two subjects; or have obtained the Higher Grade Schools Leaving Certificate of the Scotch Department in at least five subjects.

II. Candidates who have passed any of the aforesaid Local Examinations may present themselves at the Edinburgh University Examinations for the Certificate in Arts, either in *April* or in *October*—in the subjects of any one or more, or of all of the Classes attended by them.

After they have passed in not less than three subjects, they are entitled to receive a University Certificate in Arts.

III. The Classes at present sanctioned and approved by the University are the following:—*Department of Languages and Literature*—English Literature, Latin, Greek, Biblical Criticism, Science and History of Language; *Department of Philosophy*—Logic and Mental Philosophy, Moral Philosophy, Political Economy, Theory of Education, Fine Art; *Department of Mathematics and Physical Science*—Mathematics, Experimental Physics, Chemistry, Geology, Botany, Zoology, Physiology, and Astronomy.

IV. The University Certificates in Arts for Women are of two grades—Pass Certificates and Honour Certificates.

V. Honour Certificates in Arts are awarded to those Candidates who, having passed a satisfactory Examination in at least three subjects, have, in a farther and Special Examination for Honours, exhibited high proficiency in any *one* of these three subjects.

VI. Candidates for the *Local Examinations* of the University, which are held annually in June, may obtain, on application to the Clerk of Senatus, University, Edinburgh, printed forms, which are required to be filled up and returned to him, with the fees, on or before 12th May.

VII. Candidates for *Ordinary* and for *Honour* University Certificates in Arts must send their names and addresses, and the subjects in which they wish to be examined, to the *Clerk of Senatus*, together with the fee and proof that they have passed the Local Examinations—before the 12th March or the 1st October in each year.

VIII. The fee for the *Senior Local Examinations Certificate* is £1, 10s., and that for the *University Certificate in Arts* two guineas—to be paid to the Clerk of Senatus. No additional fee is required for an Honour Certificate.

PASS CERTIFICATE.

In accordance with the Regulations for "University Certificates in Arts for Women," the following days and hours are fixed for Examinations for the PASS CERTIFICATE, viz., in October 1891:—

Tuesday,	13*th October* .	Latin (9-11, and 11.30-1.30); Mathematics (2.30-4.30).
Wednesday,	14*th October* .	Mathematics (9-11); Greek (11.30-1.30, and 2.30-4.30).
Thursday,	15*th October* .	Logic and Mental Philosophy (9-12); Experimental Physics (1-4).
Friday,	16*th October* .	Moral Philosophy (9-12); English Literature (1-4).

And in April 1892 :—

Monday, 4*th April*	Latin (9-11, and 11.30-1.30); Mathematics (3-5).
Tuesday, 5*th April*	Mathematics (9-11); Greek (11.30-1.30, and 2.30-4.30).
Wednesday, 6*th April*	Logic and Mental Philosophy (9-12); Experimental Physics (1-4).
Thursday, 7*th April*	Moral Philosophy (9-12); English Literature (1-4).

The above are the Seven Subjects of Examination necessary for the Degree of Master of Arts.

The days and hours of Examination, in October and April, for Candidates who may select a subject not included in the above subjects, will be arranged after Candidates have given in their names.

The heads of Examination in October 1891 and April 1892 are :—

Latin.—Horace, *Odes*, i., ii.; Virgil, *Æneid*, iv., v., vi., vii.; Cicero, *De Oratore*, i.; Tacitus, *Annals*, iv. A passage from a Latin Author not prescribed. Latin prose composition. *Roman History*—A general knowledge of the History of the Republic, and a special knowledge of the periods from B.C. 60 to A.D. 37. *Roman Literature*—A general knowledge of the course of Roman Literature till the end of the Augustan age, and a more special knowledge of the lives and works of Virgil, Horace, Cicero, and Tacitus. *Translation from English into Latin prose is required of every Candidate.*

Greek.—Homer, *Iliad*, xx.; Sophocles, *Œdipus Tyrannus;* Demosthenes, *Leptines;* Plato, *Republic*, Books i., ii. A passage from a Greek Author not prescribed. Greek prose composition. *Greek History*—A general knowledge of Greek History to the death of Alexander, and a special knowledge of the period embraced by the Persian Wars. *Greek Literature*—A general knowledge of the course of Greek Literature, and a special knowledge of the prescribed Authors. Laws of Hexameter and Iambic verse.

Psychology and Logic.—The Elementary Doctrines of Logic and Psychology. Davidson's *Logic of Definition*, chaps. i., ii., iii., and vi., vii., viii., ix. "Locke" in "Philosophical Classics" (Blackwood); *Selections from Berkeley* (fourth edition),—Editor's "Introduction," (pp. ix.-liii.); "Principles of Human Knowledge," (Part I. sect. 1-84, pp. 37 to 101); "Divine Visual Language: A Dialogue" (pp. 249-296); Extracts from *Siris*, (pp. 339-394); Prefatory Notes (pp. 3-7; 159-166; 333-337), and the footnotes.

Moral Philosophy.—The Class Lectures—"Handbook of Moral Philosophy;" Butler's Sermons, i., ii., iii., xi.; Sidgwick's "Outlines of the History of Moral Philosophy," chaps. ii. and iv.

Political Economy.—Fawcett's *Manual*, and the Lectures of the Professor.

English Literature.—Class Lectures of the Course attended. History of the English Language: the first Five Chapters of Morris's "Historical Outlines of English Accidence." History of English Literature, more particularly from 1350 to 1688: Morley's Text-Book, and the portions of Hallam's "Literature of Europe" that relate to English writers of the time mentioned. Special Readings required:—Shakespeare's *Love's Labour's Lost* and *Coriolanus;* Books i. and ii. of *Paradise Lost;* De Quincey's Essay entitled "*Rhetoric,*" and Mr Leslie Stephen's *Swift* in the English Men of Letters Series; Wordsworth's *Prose Prefaces, &c., to his Poems.*

Mathematics—Arithmetic. Euclid, Books i., ii., iii., iv., and vi., or their equivalent. Algebra, to Quadratic Equations, including the Progressions.

Experimental Physics.—The Class Lectures—Balfour Stewart's *Elementary Physics.*

Chemistry.—The Class Lectures—Bloxam's *Chemistry.*

Geology.—The Class Lectures—Geikie's *Outlines of Geology.*

Botany.—The characteristic features of the following groups and classes of the Plant Kingdom: — Thallophyta [Algæ, Fungi], Muscineæ [Hepaticæ, Musci], Pteridophyta [Filicineæ, Equisetineæ, Lycopodineæ], Phanerogamæ [Gymnospermæ, Angiospermæ (Monocotyledones, Dicotyledones)]. The characters of the Natural Orders, Ranunculaceæ, Cruciferæ, Leguminosæ, Rosaceæ, Umbelliferæ, Compositæ, Labiatæ, Urticaceæ, Orchidaceæ, Liliaceæ, Gramineæ, Coniferæ. The fundamental facts of Morphology and Physiology as they are illustrated in the life histories of:—Bacterium, Saccharomyces, Mucor, Vaucheria, Eurotium, Funaria, Aspidium, Pinus, Scilla, Helianthus. Prantl and Vines' "Text-Book of Botany;" Bower and Vines' "Practical Botany."

Zoology.—(*a.*) The Principles of Classification, and the distinctive characters of the Classes of the Animal Kingdom. (*b.*) The principles of Geographical Distribution of Animals, and a general knowledge of the Geographical Distribution of the Mammalia. (*c.*) The structure and habits of the following forms:—Amœba, Hydra, Asterias, Lumbricus, Anodonta, Homarus, Blatta, Ascidia, Gadus, Rana, Lacerta, Columba, Ornithorhynchus, Macropus, Lepus. (*d.*) The Life-History of Aurelia, Ascidia, and Rana. *Text-Books*—Lloyd Morgan's "Biology," and Packard's "Zoology."

Physiology.—The Class Lectures—Huxley's *Physiology.*

Biblical Criticism.—Class Lectures for One Session: Apocryphal Gospels—Hammond's *Outlines of Textual Criticism applied to the New Testament* (or Scrivener's *Introduction* so far as regards MSS. and Versions).

Science of Language.—The Class Lectures.

Astronomy.—Consult Professor as to books.

HONOUR CERTIFICATE.

The following days are appointed for Examinations for HONOUR CERTIFICATES, when any who have passed the Ordinary Examinations in *at least three Subjects* may present themselves. Candidates may select, as the Subject of an Honour Examination, any *one* of the three Subjects in which they have passed the Ordinary Examination. (See Regulation V.)

Latin—8th April, 9 to 12, and 1 to 4; 9th April, 9 to 12. *Greek*—9th April, 1 to 4; 11th April, 9 to 12, and 1 to 4. *Logic and Metaphysics*—8th April, 9 to 12, and 1 to 4; 9th April, 9 to 12. *Moral Philosophy*—9th April, 1 to 4; 11th April, 9 to 12, and 1 to 4. *Mathematics*—8th April, 9 to 12, and 1 to 4. *Natural Philosophy*—9th April, 9 to 12, and 1 to 4.

The days and hours of Examination for any subject not included in the above will be arranged after Candidates have given in their names.

The heads of Examination are as follows:—

Latin.—Plautus, *Pseudolus*, *Rudens;* Terence, *Phormio;* Horace; Juvenal, with omission of ii., vi., ix.; Martial, Selections for the Use of the Humanity Classes, i., ii., ix.-xii.; Cicero, *Epistolæ ad Q. Fratrem ad Atticum*, i.-iv., and vii., viii.; Tacitus, *Annals*, xi.-xvi.; Latin prose composition, and translation from Authors not prescribed. *Roman History*—First century, B.C. and first century A.D. A general knowledge of the previous history will be expected. *Roman Literature*—A general knowledge of the course of Roman Literature, and a more minute knowledge of the Authors prescribed.

Greek.—Homer, *Odyssey*, i.-xii.; Sophocles, *Œdipus Col.* and *Antigone;* Theocritus; Thucydides, Books vii., viii.; Plato, *Gorgias* (Thompson's Edition); Aristotle, *Poetics* (Vahlen's text). Greek Prose Composition; Translation from Authors not prescribed. *Greek History.*—A general knowledge of Greek History to the death of Alexander, and a minute knowledge of the period embraced by the Peloponnesian War. *Greek Literature.*—A general knowledge of the course of Greek Literature, with a more minute knowledge of the Authors prescribed. *Greek Grammar.*—As a special subject *Monro's* Homeric Grammar; The principles of Comparative Philology as applied to Latin and Greek. Text-book recommended, "Sounds and Inflexions in Greek and Latin," by King and Cookson.

Logic and Metaphysics.—Exercises in Hamiltonian as well as in the ordinary logical forms. A competent knowledge of the History of Philosophy. Plato, *Theætetus;* Aristotle, *Metaphysics*, Book i.; Descartes, *Meditations;* Locke, *Essay on Human Understanding*, in connection with "*Locke*" in "Philosophical Classics" (Blackwood); Berkeley, in "Philosophical Classics" (Blackwood); also "*Selections from Berkeley*" (fourth edition); Hume, *Inquiry concerning Human Understanding;* Kant, *Critique of Pure Reason;* Hegel, in "Philosophical Classics" (Blackwood), and Professor Seth's *Hegelianism* and *Personality*.

Moral Philosophy.—Plato's *Protagoras.* Plato, *Republic*, i.-vii.; Aristotle, *Ethics* (omitting v., vi., vii.); Spinoza, *Ethics;* and Reid's *Active Powers*, Ess. ii., iv., v.; Kant, *Metaphysic of Ethics;* Hegel's *Philosophy of the State* (Griggs's *German Philosophical Classics*); Sidgwick, *Methods of Ethics;* Green's *Prolegomena of Ethics.*

English Literature.—(*a.*) History and Structure of the English Language: Morris's *Historical Outlines of English Accidence*, first Five Chapters, with Chapter XII. (entitled "Pronouns"), and Appendices I. and III. (*b.*) History of English Literature, more particularly from 1250 to 1400, and from 1580 to 1688: Craik's larger *History of English Literature* and Taine's *History of English Literature* recommended, in addition to readings in the chief authors of the two periods mentioned. (*c.*) Special Readings required:—Spenser's *Faery Queene*, Book I. (Clarendon Press Edition); Bacon's *Advancement of Learning* (Clarendon Press Edition); Shakespeare's *Tempest* and *Julius Cæsar;* Milton's *Lycidas* and *Samson Agonistes;* Johnson's Life of Pope; Wordsworth's Prose Prefaces, Appendix, &c., to his Poems; Tennyson's *Maud* and *In Memoriam*. (*d.*) English Composition.

Mathematics.—Euclid, I., II., III., IV., VI., and XI., or their equivalent; The advanced portions of the Elements of Algebra; Trigonometry; and Conic Sections, treated geometrically and analytically.

Experimental Physics.—A general knowledge of the subject, such as may be acquired from Stewart's *Elementary Physics*, or from Lectures of the Three Year Course. In addition, Maxwell's *Heat*, or Tait's *Properties of Matter.*

Chemistry.—Bloxam's *Chemistry.*

Geology.—J. Geikie's *Outlines of Geology;* Lyell's *Principles of Geology.*

Botany.—Consult Professor as to books.

Physiology.—Candidates will be examined on all the subjects treated of in Kirke's "Physiology," except the Physiology of the Reproductive Organs and Development.

Biblical Criticism.—Candidates who desire Honours in these subjects may consult the Professors as to Books, &c.

Science of Language.—The Class Lectures.

Astronomy.—Consult Professor as to Books.

Candidates who propose to present themselves at the Ordinary Examinations in October 1891 must intimate their names and addresses to the "*Clerk of Senatus, University of Edinburgh,*" before the 1st of October; and at either the Ordinary or the Honour Examinations in April 1892, before the 12th of March—specifying the Subject or Subjects in which they offer themselves, and also the Classes which they have attended, with the Sessions in which they have done so. The Fee should be paid when the Candidate announces her name.

Evidence of having passed the Local Examinations, and also certifi-

cates of the necessary attendance in the Classes of the "Association for the University Education of Women" must be produced in the Examination Room when the candidate appears to be examined.

G. CHRYSTAL, LL.D.
Dean of the Faculty of Arts.

THE FOLLOWING OBTAINED CERTIFICATES IN APRIL 1891 :—

HONOUR CERTIFICATES.

SUSANNAH S. R. KENNEDY—*Second Class*, English Literature.
LILIAS MAITLAND—*Second Class*, Moral Philosophy.
FRANCES H. SIMSON—*Second Class*, Moral Philosophy.

PASS CERTIFICATES.

JANE P. EDNIE—English Literature, Moral Philosophy, and Geology.
KATHERINE C. MACLAREN—English Literature, Latin, and Moral Philosophy.
AMY H. CAMERON—English Literature, Mathematics, Logic and Mental Philosophy.
AGNES FARQUHARSON—English Literature, Latin, and Mathematics.
LILIAS A. G. FRASER—Mathematics, Botany, and Astronomy.
SUSANNAH S. R. KENNEDY—English Literature, Mathematics, and Logic and Mental Philosophy.
SYBIL B. MACPHAIL—English Literature, Logic and Mental Philosophy, and Geology.
MARGARET NAIRN—English Literature, Logic and Mental Philosophy, and Moral Philosophy.
MAUDE E. NEWBIGIN—English Literature, Latin, and Logic and Mental Philosophy.

III.—THE EDINBURGH UNIVERSITY LECTURE-EXTENSION ASSOCIATION.

The object of this Association is to provide short courses of Lectures of an Academic character for the benefit of persons unable to attend the University itself. Full particulars and copy of Annual Report on application to the Secretaries.

President.—Sir Thomas Clark, Bart.

COMMITTEE OF MANAGEMENT.—*Chairman*—Principal Sir William Muir. *Vice-Chairman*—Professor S. S. Laurie. Professors Crum

Brown, Calderwood, Masson, Butcher, Flint, Nicholson, Kirkpatrick, Geikie; Sheriff Mackay, LL.D.; R. Vary Campbell, Esq., Advocate; Robert Cox, Esq., M.A., F.R.S.E.; John Harrison, Esq.; James Oliphant, Esq., M.A.; J. R. Findlay, Esq.; J. A. Wenley, Esq.; Miss Louisa Stevenson; James Tod, Esq.; Walter Thorburn, Esq., M.P.

Lecturers and Subjects.

All Professors of the University are entitled to deliver such courses when willing to do so. Secretaries of Local Committees, when desirous of securing the services of Professors, are requested to communicate with the Association on the subject.

R. E. Allardice, M.A., *Mathematics;* A. M. Anderson, M.A., LL.B., *History;* H. Bellyse Baildon, M.A. (Cantab.), *English Literature;* Mark G. Davidson, M.A., LL.B., *Political Economy;* John Downie, M.A., *History;* R. W. Felkin, M.D., *Anthropology;* W. E. Fothergill, M.A., B.Sc., *Botany;* J. M. Gray, F.S.A., *Fine Art;* F. R. Jamieson, M.A., *Roman Literature;* J. M. Irvine, M.A., B.Sc., *Political Economy;* Jules A. L. Kunz, *French Language and Literature;* W. Mitchell, M.A., *Logic, Psychology, and Moral Philosophy;* H. R. Mill, D.Sc., *Geography and Physiography;* A. A. Murray, M.A., LL.B., *Political Economy;* W. Peddie, D.Sc., *Physics;* Franklin Peterson, *Music;* Albert von Ravensberg, *German Language and Literature;* F. F. Roget, Grad. Univ. Geneva, *French Literature;* J. A. Smith, B.A. Oxon., M.A. Edin., *Greek Literature;* G. Gregory Smith, B.A. Oxon., M.A. Edin., *Literature and Modern History;* Otto Schlapp, Ph.D., *German Literature;* J. Arthur Thomson, M.A., *Zoology;* D. J. Vallance, *Fine Art;* S. Williamson Wallace, *Agriculture.*

For further particulars apply to

H. Bellyse Baildon, M.A., } *Honorary*
G. Gregory Smith, M.A., } *Secretaries.*

IV.—CIVIL SERVICE OF INDIA EXAMINATIONS.

The University of Edinburgh now being one of those Institutions selected by the Secretary of State for India, in which Candidates for the Civil Service of India may pass their probation, arrangements have been made by the Senatus for the accommodation of selected candidates. Such selected candidates will be under the supervision of the Principal and Deans' Committee.

The Civil Service Commissioners have been requested to inform Candidates for the Indian Civil Service, that "in the event of their being appointed to the Service, a clause will be introduced into their

Covenants by which they will bind themselves to agree to such Regulations for the provision of pensions for their families as may be approved by the Secretary of State for India in Council."

The Examinations are held early in June annually, and are open to all natural-born subjects of Her Majesty, above seventeen years and under nineteen years on the 1st January preceding, who are of sound constitution and good moral character. The fee for the Examination is £5.

The Examination embraces :—English Composition ; History and Literature ; Greek ; Latin ; French ; German ; Italian ; Mathematics ; and any two of the following Sciences, viz. :—Chemistry ; Electricity and Magnetism ; Experimental Laws of Heat and Light ; Mechanical Philosophy, with outlines of Astronomy ; Logic ; Elements of Political Economy ; Sanskrit ; Arabic.

Candidates are at liberty to name any or all of these branches of knowledge. No subjects are obligatory.

Selected Candidates, before proceeding to India, will be on probation for two years, during which time they will be examined periodically, with a view of testing their progress in the following subjects :—Law ; Classical Languages of India, viz.—Sanskrit, Arabic, Persian ; Vernacular Languages of India ; History and Geography of India ; Political Economy.

Examinations will be held at the close of the second year of probation, at which it will be decided whether a selected Candidate is qualified for the Civil Service of India. *At this Examination Candidates will be permitted to take up any one of* the following branches of Natural Science, viz. :—Agricultural Chemistry, Botany, Geology, or Zoology.

Candidates will be tested during their probation as to their ability to perform journeys on horseback ; and no Candidate will be deemed qualified for the Civil Service of India who fails to satisfy the Civil Service Commissioners of his competence in this respect.

Persons desirous to be admitted as Candidates may obtain all necessary information from "The Secretary, Civil Service Commission, London, S.W.," who will supply forms of application at any time after the 1st December for the Examination following. The forms must be returned on or before 31st March.

V.—EXAMINATIONS FOR CANDIDATES FOR THE ARMY.

In the Explanatory Memorandum of the Secretary for War, to accompany the Royal Warrant (of 30th October 1871) regulating first appointments, regimental promotion, &c., in the Army, it was announced that

"A certain number of Sub-Lieutenancies a year will be allotted to Candidates who have passed the University Examination specified in the Regulations. If they also pass the Examination for the degree of B.A., they will be allowed two years' extension of the limit of age. University Candidates will be required to give at least six months' notice of their desire to be admitted into the Army. If in any year there should be more Candidates than appointments, the requisite number will be chosen by competition between the Candidates; after their appointment they will go through the same course as other Sub-Lieutenants."

In subsequent communications from the War Office it has been announced that "The Examination for M.A. at a Scottish University will be considered tantamount to passing that of B.A. at an English or Irish University;" and that "the Secretary of State for War has accepted an examination at the Scottish Universities, to be defined as 'The Examination for Candidates for the Army,' as equivalent to the examination at the English and Irish Universities for similar candidates, and that the age of such candidates may be extended to 21 years. This examination will consist of any three out of the seven examinations required for the degree (M.A.) at the University of Edinburgh; but one subject out of each of the three separate Departments will have to be taken up."

In conformity with the above regulations of the War Office—1st, all who have passed the Examination for the degree of M.A. will be eligible for Commissions in the Army, and will be allowed two years' extension of the ordinary limit of age. 2nd, Those Students who have not passed the M.A. Examination may receive Certificates qualifying them for Commissions in the Army (provided they be not more than 21 years of age) on having attended one class in each of the three Departments of the M.A. curriculum,—that is to say (*a*) either one Greek or one Latin class; (*b*) either Logic, Moral Philosophy, or Rhetoric and English Literature; (*c*) either Mathematics or Natural Philosophy,—and on passing the M.A. Examination, in either April or October, in those three subjects in which the Candidate has attended classes.[1]

The names of intending Candidates for Certificates must be given in and fees paid at the *Matriculation Office* at the same time as those of Candidates for the M.A. Examinations.

The Fee for the Examination is two guineas.

Candidates may be exempted from the Preliminary Examination in all subjects except geometrical drawing, if they can produce a certificate of having passed the Preliminary Examination in general education required of Candidates for graduation in Medicine at the University of Edinburgh, when the Candidate has passed in all the subjects of the Army Preliminary Examination at not more than two examinations.

---

1 See Regulations for Degree of M.A.

VI.—SYLLABUS OF SUBJECTS OF EXAMINATION FOR STUDENTS OF DIVINITY AND CANDIDATES FOR LICENCE BY PRESBYTERY OF EDINBURGH.

*** *The Examinations shall be conducted mainly in writing.*
An average of not less than 40 *per cent. over all the subjects, and a minimum of* 30 *per cent. in each shall be necessary to a pass, except in Biblical Knowledge, in which* 50 *per cent. shall be the minimum.*
The Examinations, by the favour of the Senatus, will be held in the Examination Hall of the University.

I.—FOR STUDENTS ENTERING THE DIVINITY HALL.

1. BIBLICAL KNOWLEDGE.—Genesis to 2 Samuel, and the Four Gospels.
2. THE SHORTER CATECHISM.

II.—FOR STUDENTS ENTERING UPON THEIR SECOND YEAR.

1. LATIN.—Augustine—Enchiridion.
2. GREEK.—The Epistle to the Colossians as in Lightfoot.
3. HEBREW.—Davidson's Grammar, 1-31; Genesis, i.-ix.
4. DIVINITY.—Confession of Faith, 1-15; Flint's Theism; Row's Manual of Christian Evidences.
5. BIBLICAL KNOWLEDGE.—1 Kings to Nehemiah, and Acts of the Apostles.
6. CHURCH HISTORY.—History of the Church to 325 A.D.

III. FOR STUDENTS ENTERING UPON THEIR THIRD YEAR.

1. LATIN.—Anselm—Cur Deus Homo.
2. GREEK.—St John's Gospel to be read critically, with discussions as to date and authorship.
3. HEBREW.—Davidson's Grammar, 32-49; Psalms i.-xv.
4. DIVINITY.—Confession of Faith, 16-33; The Trinity; The Person of Christ.
5. BIBLICAL KNOWLEDGE.—The Mosaic Ritual and the Prophets.
6. CHURCH HISTORY.—The Reformation Period, with special reference to Scotland.

IV.—FOR CANDIDATES FOR LICENCE.

1. LATIN.—Augustine's Confessions, Book IX.
2. GREEK.—First Epistle of St John, to be read critically.
3. HEBREW.—The Psalms of Degrees.
4. DIVINITY.—Scripture Doctrine of the Atonement. By Professor Crawford.

6. PASTORAL THEOLOGY.—The Pastor as Preacher. By Dr H. W. Smith.

7. CHURCH LAW.—Mair's Digest, Chapters II. and IV.; "Matters affecting all the Courts;" and "The Kirk-Session."

N.B.—By Act of Assembly XX., 1889, all Students of Theology who have completed the prescribed course of Theological instruction shall, before applying to any Presbytery to be taken on trials for licence, be examined by the Synodical Committees already existing for examination of Students entering the Divinity Hall. The Convener of the Edinburgh Synodical Committee is the Rev. Dr Alison, who will give the necessary information.

VII.—UNIVERSITY SOCIETIES AND CLUBS.

i.—THE AGRICULTURAL SOCIETY.

ESTABLISHED 1858.

Honorary President—Professor Wallace. *President*—John K. Borland. *Vice-President*—R. J. Irving. *Secretaries*—J. S. Gordon, R. B. Greig. *Treasurer*—John Murray.

This Society meets weekly during the Winter Session at 7.30 P.M.

ii.—ARTS STUDENTS' CHRISTIAN ASSOCIATION.

Hon. President—Professor Calderwood. *Hon. Vice-Presidents*—Rev. A. Martin, Professor Butcher, Rev. W. O. Mackenzie, Rev. A. W. Williamson, Dr A. H. F. Barbour, Professor Marcus Dods. *President*—R. M. Robertson. *Secretaries*—H. F. L. Taylor, 18 Woodburn Terrace; R. Drummond Ross. *Treasurer*—C. A. MacPherson.

iii.—ASSOCIATED SOCIETIES OF THE UNIVERSITY OF EDINBURGH.

This Association was instituted in 1833, and is a Union of Literary and Debating Societies. It is composed at the present date of five societies:—The Dialectic, Scots Law, Diagnostic, Philosophical, and Philomathic Societies. The following is the list of the Office-Bearers of the Association, and of the respective component societies:—

Honorary President—The Most Hon. the Marquis of Bute, K.T., LL.D. *Hon. Vice-Presidents*—The Senatus Academicus of the University (*ex officiis*). *Secretary*—L. Clarence D. Douglas, Kilmeny, Merchiston.

DIALECTIC SOCIETY.—INSTITUTED IN 1787.

Presidents—Maxwell Fleming, M.A.; C. R. Gillies Smith, M.A.; W. Ingram, M.A.; J. Hamilton, J. G. B. Henderson, M.A. *Secretary*—W. M. Landale. *Treasurer*—J. Hossell Henderson. *Delegates to the Associated Societies' Council*—The Secretary and Maxwell Fleming, M.A.

This Society meets in the Societies' Hall every Thursday Evening at 8 o'clock, for the prosecution of Literary and Philosophical Composition, Criticism, and Debate.

SCOTS LAW SOCIETY.—INSTITUTED IN 1815.

Presidents—J. M. Irvine, M.A., B.Sc., LL.B., Advocate; John Forgan, Solicitor, and D. M. Abel, M.A., LL.B., Advocate. *Secretary*—H. W. Gibson, M.A., 84 Great King Street. *Assistant-Secretary*—J. W. M. Loney, Solicitor. *Treasurer*—Joseph M. Harkom, B.L.

This Society meets every Monday Evening during the Winter Session, at 8.30 o'clock, for the purpose of debating and reading Essays.

DIAGNOSTIC SOCIETY.—INSTITUTED IN 1816.

Presidents—W. R. T. Middleton, L. W. Dickson, M.A.; R. C. Malcolm, M.A., and H. F. Cadell. *Secretary*—R. Gillies Campbell. *Treasurer*—E. Boyd. *Delegates to the Council*—L. C. D. Douglas, and W. F. Finlay.

This Society meets every Tuesday Evening during the Winter Session, at 9 o'clock, in the Associated Societies' Hall, for the purpose of debating and reading Essays.

PHILOMATHIC SOCIETY.—INSTITUTED IN 1858.

Presidents—James Dunlop, M.A.; Charles Stewart, and George S. C. Stevenson. *Secretary*—Robert Lees. *Assistant Secretary*—J. Miller Graham. *Treasurer*—John N. Craig. *Committee*—John Forbes, M.A.; Sydney Smith, and F. S. Davies, B.A.

This Society meets in the Societies' Hall every Friday evening during the Winter Session at 8 P.M., for the purposes of debating and reading Essays; and is open to all who are, or have been, Matriculated Students of the University of Edinburgh.

PHILOSOPHICAL SOCIETY.—INSTITUTED IN 1871.

Honorary Presidents—The Principal; Professors Campbell Fraser and Calderwood; Sir George G. Stokes, Bart. (*ex officiis*), and James Ward, D.Sc., LL.D. *Senior President*—W. Ingram, M.A. *Presidents*—H. Barker, M.A.; C. M. Douglas, M.A.; John Davidson. *Secretary*—H. R. Mackintosh. *Treasurer*—J. A. S. Barrett.

This Society meets in the Associated Societies' Hall every Wednes-

day evening during the Winter Session, at 8 o'clock, for Philosophical Criticism and Investigation.

iv.—ATHLETIC CLUB.

Any present or past Student of the University may become a Member. Subscriptions payable to Messrs E. & S. LIVINGSTONE, 15 Teviot Place (*opposite University New Buildings*), from whom further particulars may be obtained. See also Notices on the Board at the University Gates.

v.—BOAT CLUB.

Honorary Members—Professors Maclagan, Fraser-Tytler, and Crum Brown. *Captain*—A. J. Paterson. *Vice-Captain*—John Abernethy. *Honorary Secretary and Treasurer*—E. Govan Marshall.

The Club consists of present and past Students of this and other Universities.

The Boathouse is at Viewforth Bridge, Union Canal. Annual Races in June or July.

vi.—CELTIC SOCIETY.

INSTITUTED 1848.

Honorary President—Professor Mackinnon. *Presidents*—Dugald Macfarlane, Donald MacInnes, M.A.; James Macdonald, M.A. *Secretary*—Malcolm MacInnes. *Assistant Secretary*—Thomas Fraser. *Treasurer*—Alexander Kennedy.

This Society meets in the Societies' Hall every Saturday evening during the Winter Session at 7 P.M. for debating and reading essays. Literary business conducted in Gaelic every third evening.

vii.—CHEMICAL SOCIETY.

INSTITUTED 1874.

President—Prof. A. Crum Brown, M.D., D.Sc. *Vice-Presidents*—James Walker, D.Sc., Ph.D.; J. Rymer Patterson, B.Sc. *Secretary*—Thos. S. Murray, B.Sc. *Treasurer*—R. A. Scott Macfie, B.A. *Librarian*—Leonard Dobbin, Ph.D., F.R.S.E.

This Society meets on alternate Wednesdays at 8 P.M. during the Winter Session, for the reading and discussion of papers on Chemistry and allied sciences.

Excursions to chemical works, &c., during the Summer Session.

viii.—CHRISTIAN EVIDENCE SOCIETY.

President—Sir William Muir, K.C.S.I. *Vice-Presidents*—Professors Flint, D.D., LL.D.; Calderwood, LL.D.; Blaikie, D.D., LL.D.; Alex. R. Simpson, M.D.; James Fraser-Tytler, LL.D.,

W.S. ; Principal Simon, Ph.D. *Convener of Executive Committee*—Paul M. Stork. *Secretary and Treasurer*—Alfred Hay.

The chief object of the Society is to counteract the influence of teaching opposed to Christianity.

ix.—CYCLING CLUB.

President—J. H. A. Laing, M.B. *Captain*—A. Cameron. *Sub-Captains*—F. J. Hare, B.Sc., J. M. Taylor, S. G. Davidson, M.A. *Hon. Secretary*—W. D. Barrow, University Union.

All present and former Students are eligible. Subscriptions payable to the *Treasurers*, Messrs E. & S. Livingstone, 15 Teviot Place. Runs held on Saturdays (morning and afternoon), and on Wednesday evenings, throughout the Summer.

x.—DUMFRIESSHIRE AND GALLOWAY LITERARY SOCIETY.

INSTITUTED 1847.

Presidents—James Blacklock, James Mackenna. John Foster. *Joint-Secretaries*—William Cæsar, John Gordon. *Treasurer*—James Macdonald.

The Society meets every Saturday evening in the Public Law Class-Room, at 7 P.M.

xi.—FREE CHURCH UNDERGRADUATES SOCIETY.

INSTITUTED 1886.

Honorary President—Prof. Marcus Dods, D.D. *Presidents*—S. F. Steel, A. M. MacLeod. *Secretary*—J. Kirk. *Treasurer*—J. Beattie.

The object of this Society is to promote the friendly intercourse of its members, socially and intellectually. Meetings are held every Saturday evening during the Winter Session in Dr Moxey's Class-Room, F.C. College, Mound, at 7 P.M.

xii.—GOLF CLUB.

INSTITUTED 1881.

President — The Right Hon. John Inglis, LL.D., D.C.L., Chancellor of the University. *Vice-Presidents*—Hon. Lord Shand, Professors Nicholson, Chiene, and Dr Argyll Robertson. *Honorary Members*—Professors Annandale, Chrystal, T. R. Fraser, Greenfield, Rutherford, and Tait, The Hon. Lords Rutherfurd Clark and Lee, The Rev. Principal Rainy, Hon. H. J. Moncreiff, Dr Harvey, Dr Bryce, W. Young, W.S., Leslie M. Balfour, W.S., Dr John Duncan. *Captain*—B. Hall Blyth. *Treasurer*—C. L. Blaikie, C.A., 88 George Street. *Secretary*—T. A. Begbie, 90 Thirlstane Road.

Past and present Students are eligible. Subscription, Entry money, 10s.

xiii.—MEDICAL STUDENTS' CHRISTIAN ASSOCIATION.

Honorary President—Professor Crum Brown, M.D., D.Sc.. *Honorary Vice-Presidents*—Professors Sir Douglas Maclagan, M.D.; Grainger Stewart, M.D.; Simpson, M.D.; Greenfield, M.D.; Chiene, M.D.; Dr A. G. Miller, Dr C. W. Cathcart, Dr A. H. F. Barbour; Dr Peel Ritchie. *General Secretaries*—A. Von Nickerk, B.A., 64 Marchmont Crescent; R. M. Leslie, M.A., B.Sc., 37 Argyle Place. *Treasurer*—C. F. Pondar, 1A Marchmont Road. *Ward Service Secretaries*—G. Newman; A. G. Fenn.

The work of the Association includes :—1. Weekly Prayer Meetings on Sunday morning in chapel of New Royal Infirmary; 2. Ward Services every Sunday; 3. Social Meetings for mutual intercourse; 4. General Students' Meetings on Sunday evenings.

xiv.—MISSIONARY ASSOCIATION.

INSTITUTED 1825.

Honorary President—Principal Sir W. Muir, K.C.S.I., D.C.L. *Honorary Vice-Presidents*—Professors Calderwood, Charteris, Sir Douglas Maclagan. *President*—W. A. Knowles, M.A. *Vice-President*—T. Lawrie Symington, M.A. *Superintendents of Home Mission*—J. H. Pierson; D. A. Rollo, M.A.; Walter Hardie; P. A. Kennedy Mackenzie, M.A. *Treasurer*—W. M. Sym, C.A., 49 N. Castle Street. *Secretary*—John Hunter, M.A., 10 Teviot Place. *Assistant Treasurer*—Arnold S. Smith, M.A. *Assistant Secretary*—Patrick Sinclair, M.A. *Librarian*—W. S. Crockett. *Assistant Librarian*—T. A. Robertson, M.A.

The Association meets to transact business, in conjunction with the University Prayer Meeting, in the Public Law Class Room on alternate Saturdays, at 10 o'clock.

xv.—MUSICAL SOCIETY.

ESTABLISHED 1867.

Patron—H.R.H. The Duke of Edinburgh.

President—Sir H. Oakeley, Mus. Doc., D.C.L., LL.D. *Vice-Presidents*—Principal Sir W. Muir, K.C.S.I.; Professors Annandale, Armstrong, Butcher, Calderwood, Flint, Kirkpatrick, Maclagan, Rutherford; John Greig, Mus. Doc., and D. Hepburn, M.B. *Hon. or Corresponding Vice-Presidents*—The President of Aberdeen University Musical Society; Prof. Sir Robert Stewart, Dublin, and Prof. Sir John Stainer, Oxford. *Hon.-Treasurer*—T. G. Dickson. *Hon.-Secretary*—A. Stodart Walker.

The Choral section meets in the Music Class Room, Park Place, on Fridays at 4.15 P.M., during the Winter Session, and the Orchestral section at 7.30 P.M., at the same place. The practisings begin on the first Friday of November.

xvi.—PHYSICAL SOCIETY.

This Society meets every third Tuesday, during the Session, at 8 P.M., for the discussion of subjects connected with Mathematical and Experimental Physics.

Presidents—J. T. Morrison, M.A., B.Sc.; Alex. Morgan, M.A., B.Sc. *Secretary and Treasurer*—J. B. Clark, M.A., F.R.S.E., Heriot's Hospital School.

xvii.—RIFLE COMPANY SHOOTING CLUB.

INSTITUTED 1873.

President—Captain Bayley Balfour. *Secretary and Treasurer*—Lieut. Hope.

This Club is open to members of No. 4 (University Co.) Q.R.V.B.R.S. Weekly competitions at Hunter's Bog. Prizes given at the end of the season for best aggregate scores.

xviii.—SWIMMING CLUB.

Hon. President—Principal Sir W. Muir. *Hon. Vice-Presidents*—Professors Annandale, Balfour, Butcher, Grainger Stewart, Kirkpatrick, *Emeritus* Prof. Blackie, Drs John Duncan, Hepburn, Littlejohn, Woodhead, Cotterill, and Haycraft. *Captain*—Mr C. W. Donald. *Secretaries*—W. E. Fothergill (Union). The Club is now a section of the University Athletic Club.

Club practices in the Corporation Baths on Monday, Wednesday, and Friday afternoons; and at Trinity Chain Pier during the summer session. Competitions (for which medals are awarded weekly) in the Corporation Baths every Friday afternoon throughout both sessions. Students and Graduates eligible.

xix.—THEOLOGICAL SOCIETY.

INSTITUTED 1776.

Honorary President—Rev. Professor Flint. *Honorary Vice-Presidents*—Rev. Professors Taylor, Adams, and Charteris. *Presidents*—William A. Knowles, M.A.; David A. Rollo, M.A.; J. Lawrie, Symington, M.A.; John Hunter, M.A. *Secretary and Treasurer*—James A. Robertson, M.A.

This Society is open to present and past Students of any Theological Seminary. It meets every Friday evening during the Winter Session, at 8.30 P.M., for debates and discussions on questions of Theology, Church History, Biblical Criticism, General Ecclesiastical Polity, and kindred subjects.

xx.—TOTAL ABSTINENCE SOCIETY.

INSTITUTED 1853.

Honorary President—Professor Simpson. *President*—David A. Rollo, M.A. *Vice-Presidents*— Ramsay, M.A.; D. R. Scott. *Joint-*

Secretaries—Med.—Muir Sandeman, M.A., 35 Great King Street; *Arts*—Vacant. *Superintendent of Mission*—D. R. Scott. *Treasurer*—H. J. Hope-Gill, C.A., 42 Northumberland Place.

Principle—Total Abstinence during year of enrolment.

xxi.—UNIVERSITY HALL.

2 Mound Place and Riddle's Court (5 Victoria Terrace).

Founded May 1887.

University Hall is designed as a social residence for students. Both buildings are situated within a short distance of the University. The accommodation includes common rooms, private studies, and bedrooms. The rents range from 7s. to 16s. per week. The cost of board averages 12s. 6d. each per week.

The external affairs of the Hall are in the hands of the following Consulting Committee:—Lord Stormonth Darling; Professors Butcher, Chiene, Kirkpatrick; Æneas Mackay, Esq.; R. Fitzroy Bell, Esq.; W. K. Dickson, Esq.; Professor Patrick Geddes, Dr George Mackay, Dr Hunter Stewart, Dr Sims Woodhead, Dr R. C. Buist, and two representatives from those in residence. J. Arthur Thomson, Esq., is Secretary of this Committee.

The internal affairs are managed by a committee of residents elected monthly. Application for admission should be made to the Hon. Sec. at University Hall.

xxii.—WESLEYAN UNDERGRADUATE ASSOCIATION.

Instituted 1888.

President—Rev. W. Brunyate. *Vice-Presidents*—Rev. G. Jackson, B.A. (Lond.); Rev. J. Scott Lidgett, B.A. (Cantab.); Rev. George Gibson; Rev. A. Hoyle. *Secretary and Treasurer*—W. C. Grosvenor, University Union.

The object of this Association is to promote the social and intellectual intercourse of its members. Monthly meetings during the winter session. Excursions in summer session.

xxiii.—WHITE CROSS SOCIETY.

Instituted 1884.

The object of this Society is to promote a healthy public opinion amongst the Students of this University on the subject of Personal and Social Purity. The work is carried on chiefly by personal influence and by addresses given from time to time by men of recognised public position. The Secretary will be glad to enrol new members and give any desired information.

VIII.—STUDENTS' REPRESENTATIVE COUNCIL.

FOUNDED 1884.

The aims of the Council are—(1.) To represent the students in matters affecting their interests; (2.) To afford a recognized means of communication between the students and the University authorities; and (3.) To promote social life and academic unity among the students. The Council is elected annually in November, partly by the students of the different Faculties, and partly by the recognised students' societies. Meetings are held in November, December, January, February, March, May, June, July, and October. At the November meeting an executive committee is elected, consisting of three presidents, two secretaries and treasurers, and ten other members, representing the four Faculties.

Presidents—L. Clarence D. Douglas; D. H. Beegling B.A.; Donald G. Campbell. *Secretaries and Treasurers*—Robert Munro, M.A., 87 Warrender Park Road; W. Lyall Wilson, M.A., 6 Cameron Park. *Executive Committee*—The Office-Bearers; and Ian R. Fraser, M.A.; C. R. Gillies Smith, M.A.; J. Nicoll, M.A.; T. G. Macormack, M.A.; W. J. Walker, B.A.; J. G. Cattanach; A. R. Wilson, M.A.; J. Erskine Dods; R. Burns Begg; D. Milne Watson.

IX.—DIRECTORY OF STUDENTS' LODGINGS.

(Under the Management of the Students' Representative Council.)

This Directory (containing terms, references, and full particulars) lies open for inspection by Students in the Students' Common Room at the University New Buildings.

X.—THE EDINBURGH UNIVERSITY UNION.

The Union is open to all Students and Graduates of the University, and its purpose is "the provision and maintenance of means of social and academic intercourse for its members." The Building, which includes a large hall (in which debates are held), luncheon, smoking, and reading rooms, besides a library and large gymnasium, is situated in Park Street, near both the old and the new buildings. The reading-room is amply supplied with periodicals and newspapers, the smoking-room is furnished with two billiard tables, and the library contains University, Class, Text, and Reference books. A first-class instructor is in attendance at the gymnasium. Matriculated Students are entitled to Membership on payment of 5s. entry-money, and 10s. 6d. annual

subscription; while Graduates pay an annual subscription of £1, 1s., or £10, 10s. for Life-Membership. The year of Membership dates from 1st May or from 1st October. Copies of the Laws may be obtained from the Treasurer.

Trustees—The Right Hon. the Lord Justice-General, Chancellor of the University; Principal Sir Wm. Muir; Sir Alex. Christison, Bart., M.D.; Professor Butcher; and J. R. Findlay, Esq. *President*—W. Campbell, Lahore. *Hon. Secretary*—James G. C. Scott. *Treasurer*—W. A. Wood, C.A., 28 Frederick Street. *Committee of Management*—Professors Annandale and Butcher, Messrs H. G. Melville, R. Fitzroy Bell, J. H. A. Laing, James Avon Clyde, A. Stodart Walker, George Porter, L. C. D. Douglas, L. U. Young, D. H. Beegling, E. B. Fuller.

XI.—STATISTICS OF THE RECTORIAL ELECTIONS IN THE UNIVERSITY OF EDINBURGH, 1859-1890.

1859.—*Gladstone*, 642.—*Neaves*, 527. Matriculated students, 1302.
1862.—*Gladstone* (*unopposed*). Matriculated students, 1331.
1865.—*Carlyle*, 657.—*Disraeli*, 310. Matriculated students, 1288.
1868.—*Moncreiff*, 607.—*Ruskin*, 425. Matriculated students, 1398.
1871.—*Maxwell*, 594.—*R. Palmer*, 502. Matriculated students, 1533.
1874.—*Derby*, 770.—*Playfair*, 583. Matriculated students, 1767.
1877.—*Hartington*, 932.—*Cross*, 684. Matriculated students, 2102.
1880.—*Rosebery*, 1024.—*Christison*, 985. Matriculated students, 2496.
1883.—*Northcote*—*Blackie*—*Trevelyan*. Matriculated students, 2660
1886.—*Iddesleigh*, 1094.—*Playfair*, 747. Matriculated students, 2680.
1887.—*Lothian* (*unopposed*). Matriculated students, 2493.
1890.—*Goschen*, 1378.—*Russell*, 805. Matriculated students, 3038.

XII.—ROYAL MEDICAL SOCIETY, EDINBURGH.

Founded 1737. Royal Charter granted 1778.

Presidents—R. D. Rudolf, M.B., C.M.; P. B. Haig, M.B., C.M.; R. D. Clarkson, M.B., C.M., B.Sc.; Alex. Miles, M.B., C.M. *Secretaries*—A. C. E. Gray, M.B., C.M.; R. J. A. Berry, L.R.C.P.S.E. *Chairman of Finance*—A. N. S. Carmichael. *Library Curator*—C. D. Sutherland. *Museum Curator*—A. B. Giles, M.B., C.M. *Editor of Transactions*—Alex. Miles, M.B., C.M. *Treasurer*—J. R. Young. *Law-Agent*—R. R. Simpson, W.S. *Sub-Librarian*—J. Turner.

The Society meets in its hall every Friday evening during the Winter. At these meetings dissertations on medical subjects are read and debated, and communications by members on subjects of interest

discussed. The Society possesses a very fine library, containing about 30,000 volumes, which is constantly being added to. There are comfortable writing and reading-rooms with all the medical journals and periodicals, books of reference and text-books specially useful to students reading for examinations. The museum contains a complete collection of Materia Medica specimens, microscopic sections, pathological preparations, herbarium, and a surgical model, on which bandaging, setting of fractures, &c., may be practised.

Annual Subscription, £2, 2s. By paying five annual subscriptions, or by paying the balance of £8, 8s. before the end of the second year of membership, a gentleman becomes a Life Member.

XIII.—ASSOCIATION FOR THE BETTER ENDOWMENT OF THE UNIVERSITY OF EDINBURGH.

President—The Right Hon. the Lord Justice-General, D.C.L., LL.D., Chancellor of the University. *Vice-Presidents*—The Right Hon. The Earl of Wemyss, LL.D.; The Right Hon. The Earl of Stair, K.T.; The Right Hon. The Earl of Rosebery, LL.D.; The Right Hon. Lord Moncreiff, LL.D.; Sir John Don-Wauchope, Bart.; Sir James Gardiner Baird, Bart.; *Principal Sir William Muir, K.C.S.I., D.C.L., LL.D.

Ordinary Members of the General Committee—(Members of the Acting Committee are marked thus *.)—The Right Hon. John B. Balfour, Q.C., LL.D., M.P.; Edmund Baxter, Esq., W.S.; *Donald Beith, Esq., W.S.; *R. Fitzroy Bell, Esq., Advocate; *A. W. Black, Esq.; John Boyd, Esq.; *Sir Thomas J. Boyd; John Carment, Esq., LL.D., S.S.C.; Professor Chiene, F.R.C.S.E.; *Sir Alexander Christison, Bart., M.D.; *D. Christison, Esq., M.D.; *John Christison, Esq., W.S.; The Hon. Lord Rutherfurd Clark, LL.D.; Sir Thomas Clark, Bart.; *Henry Cook, Esq., W.S.; *John Cook, Esq., W.S.; *R. Cameron Cowan, Esq., C.A.; Donald Crawford, Esq., M.P., Advocate; John Duncan, Esq., M.D.; *J. R. Findlay, Esq.; *The Rev. Archibald Fleming; *John Harrison, Esq.; James Hope, Esq., W.S.; The Hon. Lord Kinnear, LL.D.; *Æ. J. G. Mackay, LL.D., Advocate, Sheriff of Fife; John Dick Peddie, Esq., R.S.A.; *The Hon. Bouverie F. Primrose, C.B.; *Charles Robertson, Esq., B.C.S.; *Robert Simson, Esq., B.C.S., *George Smith, Esq., LL.D., C.I.E.; James Walker, Esq. of Dalry. *Hon. Secretary—Vacant. Acting Secretary*—*John Christison, Esq., W.S., 40 Moray Place.

Local Honorary Secretaries—A. Mercer Adam, Esq., M.D., Boston, Lincolnshire; John Beddoe, Esq., M.D., F.R.S., Clifton, Bristol; Hugh Cleghorn, Esq., M.D., Stravithy, St Andrews; Sir Dyce

Duckworth, M.D., 11 Grafton Street, Piccadilly, London; Peter Gardner, Esq., W.S., 153 St Vincent Street, Glasgow; A. F. Hutchison, Esq., Stirling; James Tait, Esq., W.S., Kelso.

Terms of Membership—Life Subscription, Ten Guineas; Annual Subscription, One Guinea. Subscriptions and Donations in excess of these Sums are earnestly solicited by the Committee.

XIV.—UNIVERSITY OF EDINBURGH BUILDINGS EXTENSION SCHEME.

At a Meeting of the Acting Committee for this Scheme, held on 16th November 1885, it was resolved to apply to Parliament for power to acquire houses in Park Street adjoining the present New Buildings as a site upon which to erect a University Hall; and under the Edinburgh University Buildings Extension Act, 1886, the following Members of the Committee, viz.:

Principal Sir W. Muir, K.C.S.I., D.C.L.,
William M'Ewan, Esq., M.P.,
Professor Sir William Turner, LL.D.,
John Christison, Esq., W.S.,

were incorporated as Trustees by the name of the Edinburgh University Buildings Extension Trustees, for the purpose of acquiring the property in question and erecting the Hall.

Mr M'Ewan munificently offered to contribute the sum required to erect the Hall as originally contemplated, and in completion of the architect's design, upon condition of the cost of the site being provided otherwise. The Government was approached on the subject, and a Parliamentary grant of £8000 towards the cost of the site was obtained. Mr M'Ewan having provided the balance required, the site was purchased. Plans for the erection of the Hall by R. Rowand Anderson, LL.D., Architect, were approved of and contracts entered into, and the work is now being proceeded with. By resolution of the Senatus Academicus, the new Hall will be named the "M'Ewan Hall," in grateful recognition of the founder's benefaction.

George Somerville, City Chambers,
Clerk to Trustees.

GENERAL INDEX.

General Index.

PAGE

Absence or disability of Examiners 36
Absence or disability of Professors 35
Abstinence (Total) Society....*App.* 18
Academic Costume..... 34
Accounts, University, Statement of.....561
Addresses of Professors.....xxvii
Agricultural Entomology, Course in..... 103
—— —— Prize List 137
—— Society .....*App.* 13
Agriculture, Course in..... 88
—— —— Prize List 134
—— Degree in.....488
—— Exam. Papers in.....499, 520
Anatomical Museum 63
Anatomy, Course in.....333
—— Prize List.....393
Apologetic Theology, Exam. Papers in 258
Arabic and Aramaic, Course in...241
Army, Examinations for.....*App.* 10
Art, Fine, Course in 100
—— Prize List 137
Arts, Faculty of 2, 20, 67
—— Classes in 69
—— Curriculum in..... 74
—— Courses of Lectures in 75
—— Graduation in 100
—— Prize Lists.....126
—— Prizes in 207, 228
—— Tutorial Classes in..... 69
—— Entrance Examinations.....109
—— Entrance Examination in Mathematics.....109
—— Papers for Entrance Exam. in Latin and Greek 140

PAGE

Arts, Faculty of, Papers for Entrance Exam. in Mathematics 143
—— Passed Entrance Examination in 1890.....123
—— Exam. Papers for Entrance Bursaries, 1890.....140
—— Honour List in Bursary Competition in 1890 124
—— Pass Examinations for M.A.111
—— —— Exam. Papers for 150
—— Honours Examinations for M.A. 115
—— —— Exam. Papers for 175
—— Sponsio Academica for Graduates in.....117
—— Graduates in, with Honours, List of.....118
—— Graduates in 1890-91 119
—— Schoolmaster's Diploma.....120
—— Diplomas conferred, 1890-91 123
—— Literate in Arts.....122
—— Bursaries, Prizes, Scholarships, and Fellowships.....193-234
—— —— open in 1891-92.....226
—— Students' Christian Association .....*App.* 13
Assessors.....1, 16
Assistants to Professors. 5, 27
Associated Societies .....*App.* 13
Association for better endowment of the University.....547, *App.* 22
Astronomy, Practical, Course in 87
Athletic Club.....*App.* 15
Auditor 8

Bachelor of Divinity, Regulations for 246
—— Exam. Papers for 249

PAGE
Bachelor of Divinity, Subjects of Examination for 248
—— of Laws (LL.B.), Regulations for....297
—— of Law (B.L.), Regulations for 298
—— —— Preliminary Examination Papers for....302
—— —— Subjects of Examination for LL.B. and B.L....306
—— of Medicine (M.B.), Regulations for....353
—— —— Papers for....433
—— of Science (B.Sc.)....470
—— —— Papers for....497
Benefactors of University 549
—— Portraits and Busts of.... 60
Bequests 550
Bequests and Donations during 1890-91....559
Biblical Criticism, Course in....242
—— Prize List 256
Boat Club ....*App.* 15
Books, Mutilation of 32
Botanic Garden, Royal.... 65
Botany, Course in 347
—— Class Prize List 389
Buildings, University 40
Buildings Extension Scheme *App.* 23

Bursaries in Faculty of Arts[1]—
Allan (76)....196, 205
Angus Club (53)....195, 202
Ardvorlich (50)....195, 201
Argyllshire (49)....195, 201
Ayrshire (39)....194, 200
Bidder (Jardine) (34) 194, 199
Blair (32)....194, 199
Border Association and Sir Walter Scott (48)....195, 201
Brown (18)....194, 198
Bruce (36)....194, 199
Bruce of Grangehill (44)...195, 200, 230, 232
Bryson (16)....193, 198
Caithness Association (42) 195, 200
Carlyle, T. (Welsh) (69) 195, 203, 229
Christie (21)....194, 198
Chrystie (15)....193, 197

PAGE
Bursaries in Faculty of Arts—
County Club and Private Bursaries 233
Cousin (82) 196, 206, 230
Cowan (51) 195, 201
Dalgliesh (9)....193, 197
Dundas (22)....194, 198
East Lothian (63) 195, 203
Endowment Association (64) 195, 203, 230
Fairbairn (77) 196, 205
Fife Association (59)....195, 202
Ford (12)....193, 197
Fotheringham and Forrest (61), 195, 202
Fraser (24)....194, 198
Fraser (Donald) (84) 196, 206, 229
Galloway (41)....195, 200
Gillan (65)....195, 203
Grant (28)....194, 199
Grierson (55)....195, 202, 230
Harrison (46)....195, 201, 232
Hepburn and Lightbody (14) 193, 197
Heriot (1, 2)....193, 196, 229
Highland Society (68)....195, 203
High School (2)....193, 196
Horsliehill-Scott (45)....195, 200, 232
Hume (26)....194, 198
Jamieson (33)....194, 199
Jardine (Bidder) (34) 194, 199
Jardine (Thorlieshope) (78)....196, 206, 230
Jenkins, Weir and (8)....193, 197
Johnston, A. (3)....193, 196
Johnstone, R. (6, 7)....193, 197
Johnstone of Harthope (57)...195, 202, 230
Lambert (58)....195, 202
Lanarkshire (56) 195, 202
Lennie (35)....194, 199
Lightbody, Hepburn and (14) 193, 197
Lothian, East, Assoc. (63) 195, 203
M'Diarmid (37)....194, 200
Macdougall (73)....196, 204
Mackenzie (79)....196, 206
MacKinnon (70)....195, 204, 230
Maclaurin (80) 196, 206

[1] The figures in parentheses refer to the numbers of the Foundations.

PAGE

Bursaries in Faculty of Arts—
Macmorran (10).....193, 197
Macpherson (30).....194, 199, 232
Mann (75).....196, 205, 230
Marshall (60).....195, 202
Maule Bursaries (83).....196, 206
Menzies (31).....194, 199
Millar (27).....194, 199
Mitchell (19).....194, 198
Nairn, Town of (75) 196, 205, 230
Newton (74).....196, 204
Orkney and Zetland (54) 195, 202
Patrick (38).....194, 200
Patterson (67).....195, 203
Peeblesshire (40).....194, 200
Penman, J. (11).....193, 197
Penman, Rev. J. (23).....194, 198
Pringle (17).....193, 198
Private Bursaries.....233
Ramsay (13).....193, 197
Renton (72).....196, 204, 231
Rhind (43).....195, 200
Scott, Horsliehill (45) 195, 200, 232
Shortt (25).....194, 198
Sibbald (52).....195, 201, 230
Simson (81).....196, 206, 233
Spence (47).....195, 201, 232
Stewart (29).....194, 199, 232
Stewart of Ardvorlich (50) 195, 201
Thomson (66).....195, 203, 230
Town Council Bursaries.....233
Trotter (4).....193, 197
Tyndall Bruce (44)..195, 200, 230, 232
University Endowment Association (64).....195, 203, 230
Wardrope (20).....194, 198
Weir and Jenkins (8).....193, 197
Welsh, John (Carlyle) (69) 195, 203, 229
Whitelaw (71).....196, 204, 230
Wight and M'Call (5).....193, 197
Zetland, Orkney and (54) 195, 202
Zetland, Earl of (62).....195, 203
Bursaries, &c., Vacant in 1891-92 229
—— Exam. Papers, 1890 140

PAGE

Bursaries in Faculty of Divinity—
Buchanan (1) 269, 279
Ettles (6) 269, 270, 279
Exchequer (5).....269, 270, 282
Grierson (7).....269, 270, 280
Hepburn (7, 8, 9).....268, 269, 281
Hunter (12).....269, 270, 282
King William (5).....269, 270, 282
Leighton (3).....269, 270
M'Lurg (2).....268, 278
Mylne (10).....269, 270, 282
Nairne, A. (1).....268
Nairne, J. (2).....272
Penman (3).....268
Ramsay (4) 269, 270, 279
Renton (11) 269, 270
Sibbald (1).....272
Simson (13).....269, 270, 281
Struthers (2) 269, 270
Thomson (9).....269, 270, 279
Webster (8) 269, 270, 279
Bursaries, Vacant, 1891-92, 279, 282
Bursaries in Faculty of Law—
Cairns (3) 318, 319, 322
Grierson (2).....318, 322
Sibbald (1) 318, 322
Thomson (4).....318, 319, 322
Bursaries, Vacant, 1891-92.....322
Bursaries in Faculty of Medicine—
Abercromby (1) 449
Anderson (8).....449, 451
Carlyle, J. A. (7).....449, 451, 457
Crichton.....449, 451
Grierson (4) 449, 450, 457
Heriot (9).....449, 451, 457
Mackenzie (6) 449, 451, 458
Mackie (3).....449, 450
Ronald (8).....449, 451
Sibbald (2).....449, 450, 457
Thomson (5).....449, 451, 457
—— Open, 1891-92 457
Bursaries in Science—
Heriot 534
Renton.....534
Sibbald 534
Busts of Professors, &c..... 61

Calendar, University.....xi-xxvi
Celtic Languages, Course in.....100
—— Prize List 137
—— Society .....*App.* 15

PAGE
Ceremonials, Annual Graduation 34
Certificates, Departmental, in Arts....107
—— of Attend. on Medical Classes....369
—— Univer. Local Exam....*App.* 1
—— for Women....*App.* 2
—— of Literate in Arts....122
Chairs.... 2
Chancellor....1, 11
Charter of University.... 9
Chemical Society.... *App.* 15
—— Laboratory....331, 335
Chemistry, Course in....335
—— Class Prize List....387
Children, Clinical Instruction on Diseases of, Courses in....351
Church of Scot., curriculum for.238, *App.* 12
Church History, Course in....242
—— Prize List....245
—— Papers in....260
Civil Law, Course in....288
—— Prize List....294
Civil and Criminal Procedure, Course on....293
—— Prize List....297
Classes, Programmes of, in Faculty of Arts....69-73
—— —— Divinity....237
—— —— Law....287
—— —— Medicine....327
—— —— Science....461
Classes, Regulations as to Opening of New.... 37
Classical Liter., Honours in 107, 115
Clerk....2, 8
Clerks, Assistant....2, 8
Clerk of Works.... 8
Clinical Medicine, Course in....343
—— Tutorial Class....331, 344
Clinical Surgery, Course in....344
—— Tutorial Class....331
Clubs, University Societies and *App.* 13
Commercial and Political Economy, Course in....97, 293
—— Prize List....296
—— Exam. Papers in....313
Comparative Embryology, Lectures on....352

PAGE
Comparative Philology, Course in 93
—— Class List....135
Constitutional Law and History..292
—— Class List....296
Conveyancing, Course in....290
—— Class Prize List....295
Costume, University.... 34
Copying at Examinations, Penalties for.... 32
Council, General, of the University.... 28
—— Med., Representative in.... 18
—— Students' Representative .. 30 *App.* 20
Court, University....1, 12
—— Regulations of.... 35
—— Abstract of Proceedings of....573
Crania, Henderson collection of, 63
Curators of Patronage....2, 17
Curriculum in Arts....74, 105
—— in Divinity....238, 246
—— in Law....288, 297
—— in Medicine....353
—— in Science....467, 470
Cycling Club.... *App.* 16

Deans of Faculties....2, 3, 4, 68, 237, 286, 326
Deeds of New Foundations....536
Degree *in Arts*, Regulations....105
—— Examination Programmes, 1891-92....111, 115
—— conferred 1890-91....119
—— Examination Papers for 140, 150, 175
—— *in Divinity*....246
—— Programme for (B.D.), 1891-92....248
—— conferred 1891....267
—— Examination Papers for....249
—— (D.D.) honorary....267
—— *in Law* (LL.D.) honorary...315
—— (LL.B.) Programme for 1891-92 300
—— B.L. Programme....300
—— *in Law*, conferred, 1890-91 315
—— Exam. Papers for....302, 306
—— *in Medicine*, Statutes....353
—— Preliminary Examination, Programme for, 1891-92...353, 363

PAGE
Degree *in Medicine*, Preliminary Examination Papers.....411
—— Professional Exam. Papers 433
—— conferred in 1890-91...380, 384
—— *in Science*, Regulations 467
—— conferred in 1890-91 528
—— Examination Papers.....497
Diagnostic Society.....*App.* 13
Dialectic Society.....*App.* 13
Dickson, W., Travelling Fund..225, 228
Diplomas, Cost of, in Arts.....107
—— Divinity, B.D.....247
—— Law, LL.B., B.L. 299, 300
—— Medicine.....372, 373
—— Science 467, 469, 493
Discipline..... 32
Diseases of Children, Lectures on 351
—— of the Eye, Lectures on.....351
—— Class Prize List 411
—— Mental, Lectures on.....350
—— —— Class Prize List.....410
Dissecting Rooms 330
Divinity, Course in 238, 246
—— Faculty of 3, 23
—— Classes in 237
—— Curriculum in.....238
—— Courses of Lectures in.....240
—— Graduation in 246
—— Class Prize Lists in.....244
—— Exam. Papers in.....249
—— Scholarships, Bursaries, and Prizes in.....268, 273, 274, 279
Doctors of Divinity (D.D.), List of 267
—— Laws (LL.D.), List of.....315
—— Medicine (M.D.), 1890-91...380
—— List of Gold Medallists.....379
—— Science (D.Sc.), List of.....527
—— Conferred in 1990-91... 528
Donations and Bequests during 1890-91 559
Dress, Full, for Graduates 35
Dumfries and Galloway Lit. Soc. *App.* 16

Ecclesiastical History, Course in.....242
—— Prize List 245
—— Exam. Papers in.....260
PAGE
Economics bearing on Agriculture, Course in..... 90
—— Prize List 135
Education, Course in..... 98
—— Prize List 136
Embryology (Comparative), Lectures on 352
Endowments, University 561
—— Association for.....*App.* 22
Engineering, Course in 92
—— Prize List 135
—— Degrees in.....481
—— Exam. Papers in.....511
English Literature, Rhetoric and, Course in..... 86
—— Prize List 133
Entomology, Agricultural, Course in..... 103
—— Prize List in.....137
Entrance-Exam. for Curr. of three Sessions 109
—— Papers for 140
—— Passed in 1890.....123
Entrance Fee of 5s. 31
Exam. Entrance in Arts, Papers for 140
—— for Bursaries.....140
—— for Preferential Bursaries in Arts 231
—— for Bursaries for Students entering Second Session.....232
—— for Degrees in Arts.....150
—— —— in Divinity.....248
—— —— in Law 300
—— —— in Medicine 358
—— —— in Science.....497
—— for Stud. of Div. for License by Presb. of Edin.....*App.* 12
Examiners for Degrees 6, 32
—— Appointment of, Regulations for 37
—— absence of, Regs. for 36
Extra - Academical Lecturers, Rules for Recognition of..... 37
—— recognised by University Court 375
Exemptions from Prel. Exams. for Degrees in Medicine and Science.....366
Eye, Diseases of, Lectureship.....351
—— Prize List.....411

PAGE
Faculties.....2, 3, 4, 20
Faculty of Arts 2, 20, 67
—— Divinity 3, 23
—— Law 3, 24
—— Medicine 4, 25
Factors of University 8
Fees for Classes.....69, 237, 287, 327
—— for Degree of M.A.....107
—— Degree in Divinity (B.D.)...247
—— Degrees in Law.....299, 300
—— Degrees in Med.....372
—— for Deg. in Science...467, 469, 493
—— Schoolmaster's Diploma.....121
—— for Literate in Arts.....122
—— for Laboratory Work...331, 468
—— General Council..... 28
Fellowships in Arts—
Guthrie (Cl.) 223
Hamilton (Philos.).....224
Shaw (Philos.).....224
Open in 1891-92.....229
—— in Medicine—
Falconer 457, 530
Freeland-Barbour.....443
Leckie-Maetier.....442
Syme.....442
Swiney Lectureship in Geology 442
Open in 1891-92.....457
—— in Science—
Falconer 530, 533
Open in 1891-92.....533
Fine Art, Course in.....100
—— Prize List 137
Forestry, Course in.....102
—— Prize List 137
Foundation, New Deeds of 536
Funds, Univ. Statement of.....561

General Council of the University..... 28
Geology, Course in..... 95
—— Prize List.....136
—— Swiney Lectureship in 442
Gifford Lectures on Natural Theology 102
Gold Medallists.....379
Golf Club, University.....*App.* 16
Graduation, Regulations for, in Arts 105

PAGE
Graduation, Regulations for, in Divinity 246
—— in Law 297
—— in Medicine 353
—— in Science 466
—— Ceremonials, Precedence at, 33
Graduates in Arts, with Honours 118
—— in 1891 119
—— in Divinity (D.D.), List of..267
—— in Law, LL.D., List of.....314
—— in Med., with Hon. 383
—— —— 1890 .....383, 384
—— in Science, 1890-91.....528
—— —— Doctors, List of 527
Greek, Course in 76
—— Class Prize List.....127
Gunning Lectureship.....278

Health, Public, Degree in.....484
—— Laboratory.....331, 346
—— Public, Papers for 497, 518
Hebrew, Course in 240
—— Prize List 244
—— Papers in 249
Henderson collection of *crania*... 63
Herbarium..... 65
History, Course in.....292
—— Prize List 296
—— *Ecclesiastical*, Course in.....242
—— —— Prize List 245
—— *Natural*, Course in.....348
—— —— Prize List.....391
Holidays.....50, 71
Honorary Degrees in Divinity....267
—— —— in Law 314
—— —— granted in absence in special cases only.....267, 315
Honours in Bursary Competition 124
—— Graduation in Arts with 107, 114
—— List of Graduates in Arts with.....118
—— Examination Papers.....140
—— in Medicine.....383
—— List of Gold Medallists 379
—— Certificates for Women, *App.* 2
Humanity, Course in..... 75
—— Class Prize List 126
Hygiene.....346

Income and Expenditure of University 567

PAGE
India, Civil Service, Regs. for *App.* 9
Infirmary, Royal, Fees, &c. 330
Institutes of Medicine, Course in 337
—— Prize List.....398

Janitor..... 8
Jurisprudence, Med., Course in..345
—— Prize List 409

Keepers of Museums..... 8

Laboratories, Botanical.....330, 347
—— Chemical.....331, 335
—— Embryological.....331, 352
—— Engineering.....73, 94
—— Gynecological 331, 341
—— Materia Medica.....331, 337
—— Natural History.....331, 349
—— Obstetrical 331, 341
—— Pathological 331, 343
—— Physical.....73, 85
—— Petrological.....73, 95
—— Physiological.....330, 338
—— Practice of Physic 330, 339
—— Public Health.....331, 346
—— Surgical Laboratory....331, 340
—— Fees.....331
Latin, Course in 75
—— Prize Lists.....126
Law, Faculty of.....3, 24, 287
—— Classes in.....287
—— Courses of Lectures in 288
—— Graduation in 297
—— Subjects of Exam. in.....300
—— Graduates in.....315
—— Hon. Graduates (LL.D.)....314
—— Prize Lists.....294
—— Preliminary Papers in French and German for B.L. 302
—— Exam. Papers in Law 304, 306
—— Bursaries in.....317, 318
—— Scholarships in 319
Lectures, University Extension Association .....*App.* 8
Lecturers, University, in Arts.... 4
—— —— Courses of.....102
—— in Law 4
—— —— Courses of.....293
—— in Medicine..... 5

PAGE
Lecturers, University, in Medicine, Courses of 333
—— Extra-Academical, recognised..... 375
—— Regs. for recognition of..... 37
Lectureship, Gunning 278
—— Swiney 442
—— Steven, in Agriculture.....103
Librarian, University 7, 49
Librarians, Assistant 7, 49
Library, Univ., Regulations..... 49
—— Use of, by Students.....54
Library, Reading-Rooms..... 58
—— Theological..... 60
Literate in Arts, Title of.....122
Local Examinations, Univer. *App.* 1
Lodgings, Directory of Stud. *App.* 20
Logic and Metaphysics, Course in 80
—— —— Class Prize List.....130

"M'Ewan University Hall".....46, *App.* 23
Masters of Arts, 1890-91.....119
Master in Surgery, 1890-91.....384
Materia Medica, Course in 336
—— Prize List 400
Mathematics, Course in..... 78
—— Class Prize List.....129
Mathematical Science, Degree in 470, 475
—— Papers in 497, 503
Matriculation 30, 73
—— Sponsio Academica 31
—— Fees 30, 73
Medallists, Gold, in Medicine 379
Medical Council, Representative in..... 18
Medicine, Curriculum in 353
—— Bursaries in 449
—— Prizes in 452
—— Fellowships, Scholarships, &c. 442
Medical Jurisprudence, Course in 345
—— Prize Lists.....387
Medical Society, Royal.....*App.* 21
Medical Students' Christian Association .....*App.* 17
Medicine, Faculty of.....4, 26, 327
—— Classes in 327
—— Curriculum in.....332, 353

PAGE
Medicine, Courses of Lectures in 333
—— Lectureships in.....350
—— Class Exams., Regulations as to 369
—— Prelim. Exams. in 353, 363
—— Professional Exams. in.....358
—— Graduation in 353
—— Graduates in, with Hon.....383
—— Graduates in, in 1890-91 380, 384
—— Sponsio Academica in.....372
—— Prize Lists.....387
—— Papers for Prelim. and Prof. Exams. 411, 433
—— Bursaries, Prizes, Scholarships, and Fellowships 442
—— *Clinical*, Course in 343
—— —— Tutorial Class.....344
—— *Institutes of*, Course in 337
—— —— Prize List.....398
—— *Practice of*, Course in 338
—— —— Prize List.....407
Mental Diseases, Course in 350
—— Prize List.....410
—— Practical Instruction in...331, 350
Mental Science, Degree in.....467
Mercantile Law and Political Economy, Course in 97
—— Prize List 296
Midwifery, Course in.....341
—— Prize List.....405
Minimum Course of Medical Study 332
Missionary Association, University.....*App.* 17
Moral Philosophy, Course in..... 81
—— Class Prize List 131
Museums 8, 62
Music, Course in 91
—— Class Prize List 135
Musical Society, University. *App.* 17

Natural History, Course in 348
—— Prize List 391
Natural Philosophy, Course in ... 90
—— Laboratory.....72, 85
—— Prize List 132
Natural Sciences, Degrees in ...470, 475
—— Papers in 497, 505

PAGE
Officers of University 1-8

Parliamentary Representative ... 12
Pass Examinations for M.A. 111
—— Exam. Papers for 150
Pathology, General, Course in...342
—— Practical Do. 343
—— Prize Lists 401
Patrons of Chairs.....2, 3, 4
Penalties for Breach of Discipline 32
Philology, Comparative, Course in 91
—— Prize List 135
—— Degree in 468
Philomathic Society.....*App.* 13
Philosophical Society.....*App.* 13
Philosophy of Law, Course in.....291
Physic, Practice of, Course in....338
—— Prize List.....407
Physical Exper. Sc., Deg. in 470, 474
—— Papers in 497, 503
Physical Laboratory 72, 85
Physiology, Course in.....337
—— Practical 338
—— Prize Lists.....398
Political Economy, Course in..... 97
—— Prize List.....296
Portraits of Professors and Benefactors..... 60
Precedence of Faculties..... 34
Preliminary Examination Papers in General Knowledge for Students of Medicine and Science 411
—— Fees for.....362
—— Examinations exempting from.....366
Preliminary Exams. for B.L. 302
Prescriptions, Papers in 441
Principal 1, 18
Prize Lists, 1890-91, Arts 126
—— Divinity 244
—— Law 294
—— Medicine.....387
Prizes in Arts, viz. :—
Arnott.....228
Bruce 207, 228
Cousin.....209, 228
Dickson Travelling Fund 225
Edin. Univ. Club (London)....207, 228
Gray..... .....207, 228
Kelland.....209

PAGE

Prizes in Arts, viz. :—
Muir....208, 229
Neil Arnott....228
Newton (74)....196, 204, 229
Rector's....207, 228
Scott and Dunbar....209
Prizes in Divinity, viz. :—
Barty Memorial....273, 281
Dickson Travelling Fund. 225, 283
Gray....207
Gunning....273
Hepburn....273, 281
Rector's....283
University Club of London....283
Prizes in Law, viz. :—
Forensic....321, 322
Gray Prizes....323
Lord Rector's Prize....323
University Club of London....323
Prizes in Faculty of Med. and in Science, viz. :—
Anderson, Henry....456
Arnott....452, 458
Beaney....454, 458
Cameron....454, 458
Dickson Travelling Fund 225, 458
Dobbie-Smith....455, 458
Ellis....453
Gold Medals for M.D. Theses. 453, 458
Goodsir....453, 458
Gray....207, 458
Gunning....455, 458
Hope Chemistry....452, 458
Milner Fothergill....456
Neil Arnott....452, 458
Rector's....228, 458
Univ. Club of London....228, 458
Wightman....454, 458
Wilson....452, 458
Open in 1891-92....458
Prizes in Science—
Anderson, Henry....456
Dickson Travelling Fund 225, 228
Dobbie-Smith....534
Ellis Prize....453
Gray....535
Gunning Victoria....534
Hope Chemistry....534
Newton....534
Rector's....534

PAGE

Procedure, Lectureship on....4, 293
Professors....2, 21
—— Addresses of....xxvii
—— Absence of, Regs. for.... 35
Professl. (First) Exam., Outline of Subjects for....370
Programme of Classes, Faculty of Arts.... 69
—— Divinity....237
—— Law....281
—— Medicine....327
—— Science....461
—— of M.A. Pass Exam. 105, 110
—— of Honours Examinations..107, 111
—— Preliminary Examination for Degrees in Medicine...353, 361
Public Law, Course in....291
—— Prize List....294
Public Health, Graduation in....484
—— Health Laboratory....331, 346
—— Health, Papers in.... 497, 518

Reading Room.... 58
—— in Univ. New Buildings....60
Rector of University....1, 11
—— Election of.... 11
—— Prize....207, 228
Rectorial Election, Statistics of, *App.* 21
Registrar of University General Council.... 8
Registn. of Members of Council.. 28
Registration of Medical Students 368
Reid School of Music.... 48
Representative in Parliament...1, 12
—— in Gen. Med. Council.... 12
—— Students' Council..30, *App.* 20
Rhet. and Eng. Lit., Course in... 86
—— Prize List....133
Rifle Shooting Club....*App.* 18
Rights of Graduates in Med. and Surgery....378
Riotous Conduct, Penalties for... 32
Roman Law, Course in....288
—— Prize List....294
Royal Medical Society....*App.* 21
Royal Botanic Garden.... 65

Salaries of Principal, Professors, &c....561

PAGE
Sanskrit, Course in..... 91
—— Prizes in.....208, 229
—— Prize List.....135
—— Scholarship in.....222, 227
Scholarships in Arts—
Arnott, Neil.....215, 228
Baxter (Sir D.), Mathemat. ...210
—— Philosophical.....210
—— of Balgavie.....213
—— J. E., in Classics.....211
—— in Mental Philosophy 211, 226
—— in Mathematics 211, 226
Bruce of Grangehill and Falkland's Classical.....211, 228
—— Mental Philosophy.....212
—— Mathematics.....212
Bucher, in Music.....214
Drummond.....211
Dunlop, Vans.....217
Ferguson.....215, 228
Fettes Exhibitions.....213
Gilchrist.....213
Gray.....212, 228
Indian.....213
Lang.....222
Mackay-Smith 223, 228
Mackenzie.....210
MacLaren 214
Music (Bucher).....214
Pitt Club 209
Rhind 214, 226
Skirving 222
Steven.....222, 228
Vans Dunlop, in Agriculture 222, 228
—— in Classical Literature ...219,
—— in Commercial and Political Economy.....219, 226
—— in Engineering.....219
—— in English Literature and Poetry 218
—— in Hebrew and Oriental (Semitic) Languages.....221
—— in History.....221, 227
—— Logic and Metaphysics ...220
—— in Mathematics.....220, 227
—— in Moral Philos 221, 227
—— in Nat. Philosophy ..220, 227
—— in Sanskrit and Comparative Philology.....222, 227

PAGE
Scholarships in Divinity—
Aitken.....275, 282
Bruce.....276
Cobb 277
Glover.....275
Jeffrey.....276, 282
Kidd.....275, 282
Maxton.....274
Pitt Club 274
Vans Dunlop, in Hebrew and Oriental (Semitic) Languages 276
—— in History.....276, 281
Scholarships in Law—
Lorimer Scholarship Fund.....320
Vans Dunlop, in Commercial and Political Economy and Mercantile Law ...226, 319, 321
—— in History.....320, 322
—— in Law of Nature and Nations, Civil Law and Constitutional Law and History 221, 319, 322
—— in Scots Law and Conveyancing 320
—— Open in 1891-92 321
Scholarships in Medicine—
Buchanan 447, 457
Coldstream Memorial.....444, 457
Dunlop, Vans 445
Ettles.....443, 457
Hope Prize 458, 463
Mackay-Smith 449, 457
Mouat.....448
Murchison.....447, 457
Scott.....448, 457
Sibbald.....443
Stark.....447
Thomson 444
Vans Dunlop, in Anatomy, Physiology, Mat. Med., and Pathology 446, 457
—— in Botany, Zoology, Chemistry, and Anatomy ...445
—— in Chemistry and Chemical Pharmacy 446
—— in Nat. History, Botany, and Geology.....446, 457
—— in Phys. and Surgery 445
—— in Preliminary Subjects 445

PAGE

Scholarships in Science—
Arnott 532, 534
Baxter (Sir D.) in Nat. Sc. 531
—— in Physical Science.....530
Hope Prize 452, 532
Mackay-Smith, in Chemistry 532, 534
—— in Nat. Phil. 532, 533
Vans Dunlop, in Agriculture 228, 531
—— in Chemistry and Chem. Pharmacy.....531
—— in Engineering 531
—— in Mathematics 227, 531
—— in Natural History, including Geol. and Bot. 531, 533
—— in Natural Philosophy 227, 531
—— Physical Science (Exhibition).....533
Steven 228, 532
Schoolmaster's Diploma 120
—— Fee for 121
Science, Conveners of Committee 460
—— Laboratories ... .461
—— Programme of Classes.....455
—— Regs. for Degrees in 466
—— Doctorate in Mental 467
—— —— in Philology.....468
—— B.Sc. and D.Sc. in Mathematical, Physical, and Natural Sciences 470
—— —— in Engineering.....481
—— —— in Public Health.....484
—— B.Sc. in Agriculture.....488
—— —— Fees ...466, 467, 469, 493
—— Dates of Examinations 494
—— List of D.Sc.'s 527
—— Graduates in 1890-91 528
—— Examination Papers 497
—— Fellowship in 530, 533
—— Scholarships.....530, 533
—— Bursaries in 534
—— Prizes in.....534
Scots Law, Course in.....289
—— Prize List 295
Scots Law Society.....*App.* 13
Secy. of University Court..... 2
—— of Curators..... 2
—— Senatus Academicus..... 2
—— General Council..... 8

PAGE

Secretaries of Local Examinations *App.* 2
Senatus Academicus....xxvii., 2, 19
Shooting Club .....*App.* 18
Societies, University, and Clubs *App.* 13
—— Associated .....*App.* 13
Sponsio Academica..... 31
—— do. for Graduates in Arts...117
—— do. for Graduates in Med...372
Statutes for Degrees of M.D., M.B., and C.M.....353
Steven Lectureship in Agriculture 103
—— Class Prize List 137
Students, Matriculated, No. of... 31
—— Representative Council.....30, *App.* 20
—— Lodgings Directory.....*App.* 20
Study, order of, for Degree of M.A. 75, 105
—— for Degree of B.D.....247
—— for Degrees in Law.....288
—— for Degrees in Medicine.....332
—— for Degrees in Science.....471
Summer Session 69, 287, 327, 461
Surgery, Course in.....339
—— Prize List 403
—— *Clinical*, Course in.....344
Swimming Club .....*App.* 18
Swiney Lectureship on Geology..442
Synopses of Courses in Faculties :
—— Arts..... 75
—— Divinity 240
—— Law 288
—— Medicine 327
Syriac, Course in 241
Systematic Theology, Papers in 262

Theology, Gifford Lectures on Natural 102, 237
Theological Library..... 60
Theological Society.....*App.* 18
Theses, Gold Medals for.....458
Gold Medallists 379, 380
Torrie Fine Art Collection..... 61
Total Abstinence Society....*App.* 18
Travelling Fund, Wm. Dickson 225, 228
Tutorial Classes in Arts 69
—— Prize Lists in.....137

PAGE
Tutorial Classes in Medicine 331
—— in Clinical Medicine 331
Tutorial Classes in Clinical Surgery 331

Union, University .....*App.* 20
University Constitution 9
—— Court 1, 12, 35
—— Curators.....2, 17
—— Endowment Assoc. ....*App.* 22
—— Buildings Extension Scheme *App.* 23
—— Hall .....*App.* 19
—— Lectures Extension ....*App.* 8
—— Lecturers..... 4
—— Assistants 5, 27
—— Examiners for Degrees, &c. 6, 32
—— Local Exams..... *App.* 1
—— Union .....*App.* 20

PAGE
University Old Buildings. 40
—— Dome 44
—— New Buildings..... 44
—— Reid School of Music..... 48
Vaccination, Reg. regarding.....372
Vice-Chancellor 1, 11

Warders..... 8
Watson Gordon Chair of Fine Art, Course in.....100
—— Prize List 137
White Cross Society.....*App.* 19
Winter Session, Opening of, &c. 71, 237, 287, 327
Women, University Certificates for, in Literature.....*App.* 2
Zoology, Lectures on 348
—— Prize List.....391

ST GEORGE'S CLASSES,

5 MELVILLE STREET, EDINBURGH.

(LATE ST GEORGE'S HALL CLASSES.)

SEVENTEENTH SESSION, 1891-92.

PREPARATION FOR EXAMINATION AND INSTRUCTION BY CORRESPONDENCE.

Oral Classes for Ladies who wish to be prepared for the Edinburgh University Local Examinations are held during the Session (October—June); and for the benefit of Students not resident in Edinburgh, instruction by Correspondence is carried on in connection with the Oral Classes.

Correspondence Classes to prepare Candidates for the St Andrews L.L.A. Examinations are conducted from October till the middle of June.

Students who may not be Candidates for examination, but who require guidance in private study, are admitted to all the Classes.

Full particulars may be had on application to the SECRETARY, Miss C. W. HAIG, 5 Melville Street, Edinburgh.

ST GEORGE'S HIGH SCHOOL FOR GIRLS.

This School is under the Management of the Committee of the St George's Classes. It will be re-opened on October 1st, in No. 5 MELVILLE STREET. Prospectuses and further information on application to the SECRETARY, 5 Melville Street, Edinburgh.

St George's Training College for Women Teachers

IN SECONDARY AND HIGHER SCHOOLS, AND GOVERNESSES IN PRIVATE FAMILIES.

This College provides a Course of Training in the THEORY, HISTORY, and PRACTICE of EDUCATION, and prepares Candidates for the TEACHERS' EXAMINATIONS of the Universities of Cambridge and of London.

THREE BURSARIES are offered to Students entering the College in October 1891.

Forms of Application for admission, and further particulars, may be obtained from the PRINCIPAL, Miss M. R. WALKER, 5 Melville Street, Edinburgh.

NORTH BRITISH & MERCANTILE
INSURANCE COMPANY.

ESTABLISHED 1809.

INCORPORATED BY ROYAL CHARTER AND SPECIAL ACTS OF PARLIAMENT.

FIRE — LIFE — ANNUITIES.

TOTAL ASSETS exceed, - - - - £10,000,000

THE FUNDS of the Life Department are not liable for Obligations under the Fire Department, nor are the Funds of the Fire Department liable for Obligations under the Life Department. In this Company, therefore, the Investments for the Life Department are kept entirely separate from those for the Fire Department, as set forth in the Balance-Sheet.

LIFE DEPARTMENT.

NEW LIFE ASSURANCES, 1890, - - - - - **£2,365,376**

IMPORTANT FEATURES.

All Bonuses now vest on Declaration, while in the event of a claim arising under a participating policy even before a Declaration of bonus, the usual intermediate bonus will be paid.

The period during which a lapsed policy may be revived is extended to one year, and the fine payable on revival is much reduced.

The Surrender Value of a lapsed policy is now held at the credit of the assured during the extended period of ten years; and during that period the option is allowed of taking a paid-up policy calculated on very favourable terms.

The Suicide Clause is abolished.

The form of policy has been shortened and simplified so that the true meaning of the contract may be readily ascertained.

Claims paid immediately *on proof of death and title.*

Premiums adjusted to each *half-year* of age.

Minimum Surrender Value fixed.

Policy not forfeited by error in Proposal Papers, unless accompanied by fraud.

General freedom of policies from restriction in Residence, Occupation, and Travel.

NINE-TENTHS of the WHOLE PROFITS of the LIFE ASSURANCE BRANCH are allocated to PARTICIPATING POLICIES.

ANNUITY BRANCH.

ANNUITIES, Immediate, Contingent, or Deferred, are granted on favourable terms.

FIRE DEPARTMENT.

Property of nearly every description insured at Home and Abroad at the lowest rate of Premium corresponding to the risk.

NET FIRE PREMIUMS, 1890, - - - - - - **£1,389,158**

LOSSES PROMPTLY AND LIBERALLY SETTLED.

Prospectuses may be had at the Chief Offices, Branches, or Agencies.

Chief Offices { EDINBURGH 64 PRINCES STREET. / LONDON 61 THREADNEEDLE STREET, E.C.

THE CORPORATION OF THE

SCOTTISH PROVIDENT INSTITUTION.

DIRECTORS.

A. R. GILLESPIE, Esq.
HUGH ROSE, Esq.
Professor BUTCHER.
Sir ALEX. KINLOCH, Bart.
F. B. ANDERSON, Esq., C.A.
GEO. DUNLOP, Esq., W.S.
Sir THOMAS J. BOYD.
Sir CHAS. PEARSON, Solicitor-General, Q.C., M.P.
JOHN JAS. COWAN, Esq.
JOHN CAY, Esq.
W. J. MENZIES, Esq., W.S.
JAMES PATTEN MACDOUGALL, Esq.
JAMES WATSON, Esq.
G. M. FRASER-TYTLER, Esq.
E. E. SCOTT, Esq., C.A.

In this SOCIETY are combined the advantages of **Mutual Assurance** with **Moderate Premiums.**

The PREMIUMS are so moderate that, at usual ages for Assurance, **£1200** or **£1250** may be secured from the first for the same yearly payment which in most offices would generally be charged (with profits) for **£1000** only—the difference being equivalent to an immediate and certain Bonus of **20** to **25** per cent.

The WHOLE PROFITS go to the Policyholders, on a system at once safe and equitable,—no share being given to those by whose early death there is a *loss*.

The SURPLUS at last Investigation was **£1,051,035**, which, after reserving one-third, was divided among 9384 Policies entitled to participate. First shares (with a few unimportant exceptions) ranged from **18** or **20** to **34** per cent., according to age and class. Other Policies were increased in all **50** and **80** per cent. and upwards.

Examples of Premiums for £100 at Death (with Profits).

Age.	25	30*	35	40	45	50	55
During life	£1 18 0	£2 1 6	£2 6 10	£2 14 9	£3 5 9	£4 1 7	£5 1 11
21 payments	£2 12 6	£2 15 4	£3 0 2	£3 7 5	£3 17 6	£4 12 1	£5 10 2

* A person of 30 may secure £1000 at death, by a yearly payment, *during life*, of £20, 15s., which would generally elsewhere secure (with profits) £800 only. Or he may secure £1000 by 21 payments of £27, 13s. 4d.—being thus free of Premiums after age 50.

At the **53rd Annual Meeting** on 25th March last, the following were the Results Reported for the year **1890** :—

New Assurances completed were £1,032,008.
Premiums in year £600,820. **Total Income £907,648.**
The Claims (including Bonus Additions*) were **£431,466.**
* These averaged about 49 per cent. on Assurances which participated.
THE FUNDS (increased by £363,150) **amounted to £7,356,619.**
The Expenses were under 10 per cent. of premium income.

Arrangements as to SURRENDER, NON-FORFEITURE, LOANS ON POLICIES (within their value), EARLY PAYMENT OF CLAIMS, &c., are specially liberal. POLICIES, as a rule, are WORLD-WIDE after five years, provided the Assured has attained the age of 30.

REPORTS *with full information may be had on application.*

HEAD OFFICE—6 ST ANDREW SQUARE, EDINBURGH.

LONDON—17 King William Street, E.C.
GLASGOW—29 St Vincent Place.
ABERDEEN—25 Union Street.
DUNDEE—12 Victoria Chambers.

BY SPECIAL APPOINTMENT

ROBEMAKERS

TO THE UNIVERSITY.

ROBES

FOR ALL

DEGREES.

CHRISTIE AND

KILPATRICK,

CLOTHIERS AND OUTFITTERS,

104 SOUTH BRIDGE,

EDINBURGH.

Established 1801.